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ORIGINAL DEPARTMENT.

LECTURE.

VALVULAR DISEASES—HYPERTROPHY.

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(Continued from page 230.)

I have some curiosities here, some that are so rare that you may never see anything of them, and some that you will see plenty of. Here, for example, is a heart, the pericardium of which is attached to the heart, but between the pericardium and the heart is a layer of bone that makes a perfect hoop, or did make a perfect hoop, about the heart. I have heard of people having to be hooped to avoid splitting, but never of a hooped heart. This bony material, you observe, is covered over by the pericardium on the outside, and attached to the heart on the inside. It comes around here, flattens out here to make quite a broad covering, then it grows narrow, and is broken at this point—you will feel the rough bone on each side—it then goes on up to the point of starting. How a heart hooped in this way could pump out blood is a matter of wonder. It was probably by a change in its usual motion. The contraction was probably from the point toward the base. There is also here a considerable amount of thickening and hardening of the aortic valves, but not so much as in some specimens I shall show you. The amount of effusion that took place during the pericarditis, between the pericardium and the heart, was too large to undergo organization, and for some reason, bony matter has taken its place. It was very likely broken down and absorbed in part, and a cal-

careous matter is deposited, in the fashion you see.

Here is a heart that I shall have occasion to refer to, perhaps, at our next hour. Observe particularly its flabbiness, but more its color, yellow—compare it with other hearts on the table—its yellow hue. This is not so very deeply marked, however. It is a fatty heart. It is Quain's degeneration. It is a feeble heart also; the walls are hardly of the usual thickness. But I will touch on this again further on.

As I shall have something to say about hypertrophy of the heart soon, you may now examine these hearts. In this one you observe the left ventricle is enlarged. The dilatation is equal to the hypertrophy. The right heart has undergone but little change. Observe, it is not larger than the ordinary size. I call your attention particularly to the valves now; observe, they are thickened, shortened and stiffened.

Here is quite a little heart which contained, at one time, in its left auricle, which you observe is hypertrophied, a false membrane; a disease of the heart which I alluded to when speaking of common endocarditis. But the false membrane has all been pulled off by experimenters, and handlers, but this is the heart, and you will observe very marked stenosis, with calcareous degeneration of the mitral valve. You can hardly get your little finger through it.

I have but little more to say regarding valvular diseases. I told you that the valves are occasionally torn out; the aortic valves are torn out at the bottom, at the attachment to the aorta. The cup is made no cup by having its bottom fall out, so to speak. That is almost always the consequence of atheromatous degeneration, weaken-

ing the valve at that point. There is another atheromatous change that is met with occasionally, and that is atheromatous deposit at the point where two of these valves are together attached to the aorta. You will observe as you examine these specimens, that each pair of the valves, each of the two valves that are near to each other, have their attachment to the aorta at the same position; that is, one is in immediate apposition to the other. Now, it sometimes happens that the aorta at that point gets atheromatous deposit, and it happens that that attachment has been torn down. It is torn down so that the attachment comes to be at a quarter of an inch below the attachment of the other valve, and this produces insufficiency. The valves will not, even suppose they are not diseased, meet in the middle of the aorta; one will fall in below the others, and consequently the valve is incomplete—insufficiency, in other words.

These, I think, with those enumerated before, will constitute the changes which you will be most likely to meet. Possibly not all the changes, but they are all that occur to me as occurring with any degree of frequency.

There is a point which I omitted to refer to, but was reminded of by one of the students, and that is with regard to the pulse in regurgitation at the aortic opening. There is a peculiar pulse. It has not, as our Methodist friends say, *the gift of continuance*. It is a blow, and then nothing—short, sharp, I cannot say decisive. It seems as if the pulse is instantly cut off as soon as you feel it. There is a little duration to the swelling of the artery in the healthy condition, and still more in hypertrophy of the heart. Supposing there is no obstacle, but if there is regurgitation at the same time, the pulse has that short, quick, sudden beat and sudden subsidence; the force that created the pulse seems to be withdrawn instantly after you feel the pulse, and then there is not infrequently, on account of the smaller wave of blood that is sent out, a little retardation; that is, the pulse does not come to the finger as soon after the heart-beat as in health. But that you can only appreciate by putting one hand on the præcordial region and the other on the pulse. The arteries in the neck, in instances of hypertrophy and regurgitation at the aortic opening, are apt to be enlarged, and to have a wider beat. You observe I do not say *stronger* beat, but a wider beat than usual, and the pulse in them is apt to be feeble; and further, the arteries in time not infrequently grow tortuous, they wind about instead of going direct to the point of distribution.

In regard to the treatment of valvular diseases, it is so entirely bound up in the general subject of treatment of cardiac diseases in general that it does not require attention at this moment. The question will naturally occur to you, how much havoc can be made by these diseased valves? How dangerous is it? The reply would be this: Obstruction at the aortic opening is the least dangerous of all, because of the compensation that can be furnished by the hypertrophy of the heart. Obstruction at the mitral opening will be grave or not, depending upon its extent. As I told you, one day it may become a very grave matter, producing a cyanosis that may be visible in the face, a congestion of all the important organs of the body, and leading to rather a slow death, that is, an illness that may be protracted through several months, or half a year, or even a year, and finally death, perhaps not so soon as the patient desired it. But diseases of the mitral valve usually have a slow ending through affections of the kidneys and dropsy, particularly œdema. Regurgitation at the mitral valve goes in the same class; it stands with obstruction of the mitral valve in regard to its mode of termination; that form of disease that is most likely to have a sudden termination, that condition in which the patients are sometimes told they may drop down dead in a moment, which is a very unwise thing to tell a patient, it makes him anxious all his life, fearing at every moment he may drop down dead. It is a very proper thing to say to such a man, we are, any of us, liable to drop off, we do not know when, and in health is the time to arrange one's business for death. And especially in New York should the wealthy make a will, since the administrators, if there were no will, would have to get security in double the amount of the estate. Suppose Cornelius Vanderbilt had died without a will, how could his estate be administered? Who could go security for thirty or forty millions of dollars—double the amount, in two securities. This is a fact that it is important you should know as medical men, because you may do a good deal of good to families by giving them, not exactly a warning of their deaths, not write down in the almanac the day they must die, but tell them, if they have property, to make a will, no matter how well they are; the better the health the better the will. The condition that is most likely to be attended by this sudden result is regurgitation at the aortic opening, by a return of blood into the ventricle after it has once entered the aorta. You can easily see that in this case, depending upon how much regurgitation there is, there will be a diminished

quantity of blood circulating in the arteries of the body. The brain will not receive its due amount, and syncope may take place, you cannot say when. It does not require a very grave lesion of this kind to lead, in certain instances, to sudden death, and it almost always occurs by a sort of syncope, the brain receiving too little blood to stimulate it to proper action, and to react upon the heart. The heart ceases to beat and the patient is dead. And yet do not give these patients unnecessary alarm. They may carry this lesion that leads to regurgitation from the aorta into the ventricle for a great many years. The number of instances in which persons die with this lesion suddenly, compared with those who die a lingering death, is very small. It is an old error to suppose that persons who have cardiac disease must die suddenly. They may, and others may. A good many years ago, when I was just entering upon the profession, I took up the study of the cause of sudden deaths; and one of the first that occurred, which I studied, was of a young woman in Bellevue Hospital. She had had typhus fever. It was in 1847. I was not so young in the profession as I was thinking. Well, typhus fever was prevailing there to a remarkable extent. She had got through with her typhus fever, and was in a condition of convalescence. She got able to go about the wards and take care of other patients to a certain extent, but she felt a little weary at times. After eating dinner she had lain down upon her bed and taken a nap. Another patient, her next neighbor, had done the same thing. She woke from her nap, raised herself in bed, and said to her neighbor, "I have not felt so well as I do at this moment since I was first taken sick," and had scarcely finished the sentence when she fell back senseless, dead. At post-mortem examination we found there was an effusion of blood at the base of the throat, involving all the nerves of respiration, compressing them to a certain extent, so that the respiration stopped suddenly. In following up the inquiry, I found within six months six cases of the same kind. Since then I have not seen one. Sudden death, then, has a variety of causes. In a person who is known to have cardiac disease it is usually ascribed to that affection, but it is not a matter of course that it will be so. And then you are to bear in mind that in certain forms of disease of the heart there is greater danger at the brain than there is at the heart itself. That is, hypertrophy of the heart without obstruction is a rather frequent cause of apoplexy. An hypertrophy of the heart without obstruction between

the arteries of the brain and the heart itself is apt to lead to apoplexy. With these remarks, then, on the relation of valvular disease to life, I leave that topic at present and call your attention to hypertrophy of the heart.

When I was a student of medicine hypertrophy was described under three divisions: First, simple hypertrophy; Second, eccentric hypertrophy; and third, concentric hypertrophy. We do not use those terms now. It is hypertrophy, and hypertrophy with dilatation. Hypertrophy with contraction, concentric hypertrophy, is probably, in every instance, no hypertrophy at all. The last act of the heart was to contract, and to force out the blood that was, just the instant before, within its cavity. It is very much contracted, its cavity is nearly obliterated, and it may be taken for a diseased condition. But it is a natural office of the heart to contract, and if death strikes at the instant the contraction is completed you will, of course, find no blood in the ventricles of the heart; you will find it smaller than natural, and that would not be consistent with the term hypertrophy. The walls are thicker, because they are contracted. I think it would be found that every instance that was of old called concentric hypertrophy, could be resolved into the condition that I have described. So that now we have hypertrophy, and hypertrophy with dilatation.

The first question that presents itself is, what is hypertrophy of the heart? Well, the obvious answer is, enlargement of its walls; increase in the bulk of matter that constitutes the walls of the heart. Well, what constitutes the walls of the heart? Mainly, muscular fibres, and some connective tissue. Then it is the muscular fibres of the heart that are increased; and how increased? I asked myself that question a great many years ago, and I resorted to some old specimens and to others I found at the hospital for the answer. A point to be investigated was, the size of the muscular fibre in hypertrophy of the heart; is it larger than the muscular fibre in the heart of natural size? I procured about twenty or twenty-five, and drew fibres from different parts of the heart, from one ventricle, and then from the other, and compared those from the natural heart with those from the hypertrophied heart, and though occasionally I would find an enlarged fibre the average was pretty nearly the same in the healthy and in the hypertrophied heart. Well, then, the conclusion is inevitable, that if the same proportion exists between the size of the muscular fibre of the natural and of the hypertrophied heart, there must be a

multiplication of the fibres of the muscles in the latter, and that is a fact. There is a new production of muscular fibres. From what origin they spring I cannot tell you, but nature has so arranged it that if the heart needs additional strength it can get additional fibres.

The size to which the heart may grow is, perhaps, limited to sixty ounces. When we meet next I intend to show you one that weighed fifty-seven ounces—within three ounces of the largest heart the weight of which has been recorded. The natural weight of the heart in a full grown person, not remarkably broad upon the shoulders, is eleven ounces; if, then, it is increased to sixteen or eighteen ounces, you see there is some hypertrophy; if it is increased to twenty-five or thirty, there is very considerable hypertrophy; and if it is increased to anywhere in the neighborhood of sixty ounces it is *cor bovinum*, an ox heart. And here I may say that that enormous size is never attained except in persons in whom disease of the heart began in infancy. This, the largest heart I possess, perhaps the largest heart in the country, was taken from a man who, at six years of age, was taken over by his physician, from Randolph, Vermont, to Dr. Nathan Smith, and was shown by him as an instance of heart disease arising from inflammatory fever, rheumatism. The boy had had articular rheumatism, and his heart became involved, and Dr. Nathan Smith had interest in it as an instance showing there might be some connection between articular rheumatism and disease of the heart. It was fourteen years after that—more than that—twenty odd years, before Baillot made out a connection between articular rheumatism, pericarditis and endocarditis; so that, really, had it been published, that discovery of Dr. Smith would have been put first, as showing the relation between rheumatism and inflammatory affections of the heart. The boy grew up, attained the age of twenty-eight years, and to show you his was not a useless heart, he was foreman of a manufactory in the immediate neighborhood of Springfield, Massachusetts. He was only incapacitated for work about a month. He kept his men all in line, all at work, until his breath became so short, probably through involvement of the kidneys in disease, that it was so painful to him he gave it up. He remained at home after that, and died about a month after ceasing to work, and yet carried this enormous heart. I have never seen a very large heart in a person in whom it did not begin to grow in early life.

The heart may be hypertrophied in the wall of one of its cavities. The hypertrophy usually

found about the heart is that of the walls of the left ventricle. The left ventricle is hypertrophied oftener than any other portion of the heart. You will find, also, hearts that are hypertrophied in all of the cavities; perhaps some such among those that I shall show you at our next meeting; and others, perhaps, that are hypertrophied in the two ventricles; and one or two, I think I have, that are hypertrophied in the right ventricle, the right auricle, and the left ventricle. So that hypertrophy may be single, or it may occupy each one of the walls of the heart cavities.

The causes of hypertrophy are various. The most common cause is the need of more strength in the walls of the cavity that is immediately affected. Obstruction, then, at the aortic opening, as has already been stated to you, is attended by hypertrophy. It is at first over filled, and it has to make up for the loss; but the heart does not seem to know exactly when to stop growing, though it does know when to begin to grow, and it may go on to become diseased. A moderate hypertrophy, then, with obstruction at the aortic opening, may not be regarded as a grave disease. Then, regurgitations will lead to hypertrophy. That the obstruction not requiring increased strength in the walls of a cavity will not produce hypertrophy, you will see in the fact that stenosis of the mitral valve is attended by no change in the left ventricle. If there is regurgitation, then the left ventricle may become hypertrophied. It needs more strength for the work it has to do. But if it is simply an obstruction of the blood coming from the left auricle into the left ventricle, and the left ventricle becomes in the end fairly filled, and does not throw the blood back again into the auricle, then there is never any hypertrophy of the left ventricle. It is only in regurgitation with this lesion that hypertrophy comes. Here, then, is one cause.

Another cause is increased strain upon the heart; an increased demand continued for a long time, attended by a nutritive, non-deteriorated condition of the blood. You see why I make that limitation: because a man with typhoid fever may have his heart beating rapidly and pretty strongly for four weeks continuously, and no hypertrophy follow. But then his blood is deteriorated: all his tissues are, throughout. If by mental or physical excitement his heart should beat this way, at the same rate and for the same length of time, and his blood were in a nourished condition, it would become hypertrophied to a certain extent. Disease that produces increased action of the heart and full action of the heart,

does not, then, give hypertrophy, unless the blood is in good, full, nutritive condition. Occupations that are attended by great mental excitement and by heart beating are dangerous in this respect, producing only hypertrophy without valvular disease. The little tyrants that command on vessels at sea sometimes are very passionate men. I have seen them beat their men about and swear at them as if they belonged to our army in Flanders; and those men are very apt to get hypertrophy of the heart. They do not observe the rule of scripture, let not the sun go down upon thy wrath. They are wrathful after night. A French physiologist has interested himself in the cardiac condition of the domestic fowl, and he found that where one rooster was to be the husband of ten or twelve hens, he was apt to get hypertrophy of the heart. This may be a warning in regard to sexual indulgence.

Then, again, hypertrophy comes from causes that are not known. We say in general that it is an error of nutrition, but why, we do not know. Persons of quiet temper and of easy life, not subject to particular excitements, and having no valvular disease of the heart, do once in awhile get hypertrophy of the heart; but it is uncommon; decidedly uncommon.

Now the question comes, how to recognize hypertrophy of the heart. A heart like that one that is passing around, which I told you is hypertrophied, occupies a greater space in the chest than it did when it was of normal size, and what will that do? It will crowd the lung away. The space over which a heart of natural size will practically come in contact with the walls of the chest, or, in other words, not be covered by lung, is about equal to two superficial inches; but when a heart grows, as that has, it must crowd the lung out of position. In a healthy person you can hear the respiratory murmur over the whole præcordial region; but when you listen to a person who has considerable hypertrophy of the heart you will very likely fail to find the respiratory murmur over the anterior portion of the heart, because the lung has been crowded away. That comes to be, then, one sign for the recognition of it. The same thing, however, occurs when the pericardium is dilated with fluid. The lung then is necessarily crowded away in the same manner.

Another point is, that the region of dullness is increased more or less markedly. The point to which the apex of the heart can be pushed to the left by its hypertrophy is perhaps six inches and a half from the median line. Then you get to about the outer curve, the outer limit of the curve

of the chest. It may be pressed backward beyond that, but I do not remember to have measured a heart which extended to the left more than six inches and a half. I have found it six inches a great many times, and five inches and a half a great many times. You can measure it in either one of two ways. Find the apex, and be sure that there is no heart beat beyond that, and you can pretty safely measure up to that point from the median line. But it is always better to make percussion, so that you will be sure of the point to which you should measure. Dullness over the lung upon an enlarged heart is very decided. The line of division between them is pretty clearly cut. Yet, even suppose you get dullness over six inches from the median line, your diagnosis is not yet made. The same thing may happen with pericarditis and an enlarged pericardium. Then, seek for the apex of the heart. If there is marked enlargement of the right side of the heart the apex will be tilted up toward the axilla. It will be, perhaps, as high as the fifth rib, following the curve of the rib upward, or it may not be as high as that. Its direction is upward and outward, and to the left. If it is the left side of the heart exclusively that is hypertrophied, the apex may be situated in the seventh intercostal space, outward, downward and to the left. Of course, it will be in the sixth before it is in the seventh. It is in the intercostal space, of course, that you can most easily feel the impulse of the heart. And then, again, you must make percussion to verify the indications of the apex beat. There is nothing that is likely to trouble you in the attempt at diagnosis but pericarditis. It is true, the heart is sometimes the seat of tumors; and the pericardium becomes enlarged sometimes by air, but that will not give dullness. In general practice, with the exception of the extraordinary cases, that you do not expect to see, these two things will give you the only trouble there will be. Hypertrophy is otherwise easily recognized. There is a point, however, to be borne in mind. I examined a gentleman who had been educated to the profession, but had gone into business, yesterday. He had pleurisy filling the left side of the chest, and his heart was pushed over so that the apex beat was about in the position on the right side that it would naturally occupy on the left, crowded over by this accumulation of fluid in the left side of the chest. Now, a person who has hypertrophy of the heart may have a pleurisy as well as anybody else, and the heart may be displaced in the same way. It may be displaced to the left also. An effusion upon the right side will enroach upon the medias-

tinum sufficiently to crowd the heart over an inch further to the left than it naturally would be. Such a case as that you may mistake for hypertrophy, when it is only a displacement. It will be important to know, then, whether there is any effusion upon the right side of the chest.

Then, again, the history of hypertrophy and of pericarditis will be found different. Hypertrophy is a chronic affection, and a man who has it, and is sent to you for it, will have had, for a good while, some shortness of breath in going up stairs. Then, again, the dullness extends, in pericarditis, as I have already told you, in a direction different from the dullness in hypertrophy. You get a certain degree of dullness, in pericarditis, with copious effusion, on the right side of the sternum, and you get it above the third rib. It is only fluid effusion in the pericardium that does that. The physical signs of hypertrophy, therefore, are pretty clearly made, pretty clearly cut, and you need hardly make any mistake about it.

The rational signs are more obscure. You cannot be sure, by any study of the general symptoms, that you have hypertrophy and nothing else. You can pretty easily determine, from the rational symptoms, that there is heart disease, but exactly what it is, is almost impossible. The usual symptoms of heart disease are to be observed in these patients, that is, a certain degree of shortness of the breath on exertion, frequently a disposition to rest the head on two or three pillows, instead of one, in sleep; a disinclination to sleep upon the right side of the body, not because it gives them pain, but because it disturbs them, it makes them nervous; they feel the heart beat, and that makes them nervous. Palpitation cannot be relied on as a means to distinguish hypertrophy. It is wonderful how much of thumping the heart will have, and the patient be entirely unaware of it in some instances; and it is really surprising how little of real palpitation will give other persons much uneasiness. There is a real palpitation and there is a subjective palpitation. Persons of particular habits will become nervous and feel palpitation when there is only natural action of the heart. It arises alone from their increased sensitiveness or the heightened state of nervous perception. And then, as I said before, a man who has real hypertrophy of the heart, who has been accustomed to hard knocks in life, may pay no attention to it, while it will lift your head half an inch at each beat, when you apply your head to the chest. It knocks like a hammer against the face and ear; and yet, ask him if his heart palpitates?

"O no, O no, my heart is good!" But palpitation is not a certain guide to diagnosis. The man that was at the clinic yesterday had no palpitation; that is, nothing that you could feel with the hand. You could feel that the heart was beating, but not with extraordinary force. He had had his disease for a considerable time, and it is to be presumed that the heart had lost some of its energy. But even in persons in whom the disease may be gradually growing there may be decided palpitation, and there may not be, so that you will have to consider what is the cause of the palpitation if you find it.

Shortness of breath is common to almost all the forms of cardiac disease, so that there is nothing particularly distinctive in that.

Then comes the question, what can be done for the relief of these patients? and then, again, as all the diseases, or nearly all the diseases, of the heart, have about the same physical history, their treatment will be substantially the same, so that I will say what is to be said about that further on.

There is another condition of the heart walls that deserves particular attention. I say particular; it is not nearly so common as hypertrophy with dilatation. It is dilatation alone. And this brings me to the question, what produces dilatation of the heart, whether it occurs with hypertrophy or singly? The answer to this question, I think, has been given by Niemeyer: dilatation of the heart by a reflux of blood into it, which blood has just been thrown out of a cavity. For example, the blood is thrown into the aorta, there is a reflowing, a reflux of it into the ventricle; perhaps one-half of it that was thrown out comes back again, and this is in the period of non-resistance of the heart; its muscle is all relaxed, flabby. If it were to come during contraction there would be resistance to enlargement; but the muscle is, so to speak, dead at the moment; it is in the period of repose that this reflux takes place. It stretches it, together with the blood flowing in from the auricle. It is compelled to contain more than it was made to contain, and the result is a moderate dilatation, and this continued seventy-two times a minute, for days, and weeks, and months, will produce an effect. One occurrence, probably, would not be felt, but a repetition is what produces the dilatation. Well, this dilatation, then, is caused by an unnatural flow of blood into the ventricle, and the heart feeling its contents, naturally acts with more than ordinary force, so that hypertrophy and dilatation often go together, step by step.

COMMUNICATIONS.

PNEUMONIA.

BY HIRAM CORSON, M.D.,

Of Norristown, Pa.

(Continued from page 176.)

Professor J. Russell Reynolds, in the introduction to his "System of Medicine," vol. 1, page 30, after speaking most disparagingly of the treatment of "a few years ago," seems to have been somewhat conscious of the danger of his teaching, and therefore added: "If we can, by bleeding, and by it alone, save the eyesight which may be threatened by iritis, or if we can, by depletion, save a life endangered by laryngitis, we are quite satisfied in adopting that measure, though it may entail some injurious consequences. It would, however, be as unkind as it would be unphilosophical, to relieve the pain of a simple pleurisy by abstracting blood in such amount as should damage the individual in after years, when equal relief might be obtained by *poultices* and *patience*." One meaning of the word disingenuous, given by Webster, is, "meanly artful," and with that meaning in my mind, I say the above statement is disingenuous; for no advocate of depletion, in those cases, would be likely to carry it so far as to injure a patient permanently. I have never seen a man who had recovered from a laryngitis or pleurisy, where venesection, or cups, or leeches had been used, who showed any evidence of injury from the depletion. And I do not believe Dr. Reynolds can point to such a case, nor that any physician in Philadelphia has ever seen such a case. Let the opponents of depletion by venesection, if they cannot show us a case of that kind, point us to the disease or injury likely to be caused by the abstraction of blood sufficient (with the aid of the means in vogue) to cure these diseases, before the treatment by digitalis, verat. virid. and aconite took their place. What injury would now be likely to follow such loss of blood? None; absolutely none. I have bled freely, in hundreds and hundreds of cases, and never have seen any bad results follow after the recovery from the acute affection which it had aided to relieve. It is easy, perhaps quite pleasant, for Dr. Reynolds to write about means of cure of which he likely knows almost nothing; but while it is fun for him it is death to the patients of those readers of his volumes who are looking for a guide to practice in the cases of which he speaks. And what is it that he recommends in the place of depletion, in inflammations of the pleura, the

lungs, iritis, and laryngitis? Poultices and patience!

That reminds me of a physician whom I knew very well, and who, when sent for to a rheumatic patient, always advised, "red flannel and patience and rest in bed;" his neighborhood was filled with cripples—legs and arms, and fingers contracted and stiff and useless for years. In Dr. Reynold's region I would expect to find many blind, and others voiceless, or dead. Just here it occurs to me to put against the author of the "System of Medicine"—whom I have noticed here only because he is the exponent of the new practice of poultices, patience and a few poisons deemed very hazardous by the bulk of the profession—the experience of Professor Gross, of Philadelphia, on this very subject of inflammation of the tissues of the eye. In a discussion which took place at one of the meetings of the Medical Society of the State of Pennsylvania, on the efficacy of venesection in acute inflammations of the various organs of the body, Dr. Gross gave the following illustration of the effect produced by that kind of depletion, contrasting it with the effects produced by veratria and aconite: he said, "Suppose the conjunctiva to be inflamed, so that the small vessels are distended with blood, and the physician should bleed him to syncope; the membrane would become pale, and the vessels would be relieved; but not so if, by the almost poisonous use of verat., you should reduce the pulse to half its usual number of beats per minute." I do not pretend to give his words; the above conveys their exact meaning. What a striking illustration! and how true! And had it not been that I wished to give Prof. Gross the credit of it, I would, in my last article, have stated my views in relation to the mode of relief procured by venesection, in pneumonia and pleurisy and other inflammations; as it acts on the eye, it acts on the capillaries and small vessels everywhere. When congestion has set in, on the lung, a good bleeding, that makes a decided impression on the system, takes away the force of the circulation which is pressing the blood into the small vessels and thus blocking up or squeezing the sides of the air cells so that no air can get into them, thus relieving the congestion, the first step in the diseased process produced by the primary irritation. So distended are these vessels before the blood is drawn, that the blood in the capillaries of the lungs is oozing through the mucus membrane and being coughed up as blood and rust-colored sputa, but after the bleeding there is almost no expectoration for hours, the vessels, like the vessels in the eye spoken of by Dr.

Gross, are relieved, the extra amount of blood has been drawn away, or is so relieved from the pressure behind that it is no longer driven into them, and opportunity is allowed them to relieve themselves, and the air to be again permitted to reach the cells.

I have often seen immediate relief thus produced; it was so in Canarra's case; from the time of the bleeding and cupping in the forenoon of one day until the evening of the next day he was comfortable, breathed easily, and if he had had a good nurse, would likely not have needed more treatment of the depleting kind. From that time, too, until the revival of the inflammation, there was but little expectoration of the viscous sputa. Every close observer must have noticed the great diminution of the characteristic exudation after a free bleeding for many hours. Although I seem to be getting entirely away from Dr. Reynolds, I feel as though this is a good place to speak of a change often made by the new lights—or, to speak more respectfully, the opponents of bloodletting—namely, that “the more you bleed the more inflammatory the blood becomes;” the increase of fibrin, the “buffy coat,” on the top of the crassamentum, being the index to the inflammatory condition. In my experience this is not true. Many years ago this objection was urged against it, by a friend who was, in a friendly, private way, as an “eclectic,” wanting me to abandon it. From that time I was careful to observe the effects of bloodletting on the crassamentum. And here are the facts, observed over and over again:—

Suppose a man, commencing to be affected by pneumonia, to be bled when the congestion has advanced for a few hours, but has not yet caused inflammation to any considerable degree. There is yet not much increase of frequency of the pulse; but little if any thirst; not much pain or cough. The blood drawn does not show the buffy coat at all, or, at most, to a very slight extent; and if the bleeding have been a free or copious one, the progress of the congestion will be arrested, it will extend no further, and that existing will be soon removed and the patient well. But suppose that the bleeding be an inefficient one, not sufficient to make a decided impression on the system; in that case the inflammation will progress almost as though nothing had been done, and before the return of the doctor on the following day will have a thick, buffy coat. There was, at the time of the first bleeding, but the very commencement of inflammation in the part, and the blood had not been affected by it. Might I not say, was not yet

poisoned by the inflammation? And this suggests another thought: *The change in the blood evidently comes from or is the effect of the inflammation on the system.* Not the disturbance of the system and the local inflammation, from an inscrutable something which, in a state of health, has insinuated itself into the blood. This view of the case will be considered hereafter. The first bleeding, when the inflammation had but just commenced, showed no fibrin; the second, a strong, firm coat; and if this last one was sufficient to arrest the extension of the disease, the blood drawn next day would show a very diminished amount of fibrin. You may bleed a healthy man to day, and again to morrow, and, my word for it, there will be no increase of fibrin found in the blood drawn the second time. I may appear very tedious, but this point is one much dwelt on by the opponents of the lancet; indeed, it was almost the only stock in trade of the Thompsonsians and Eclectics, in their early war against venesection by the “regulars,” as they called them, and if bleeding were dangerous we should here have a good guide. The diminution of the fibrin on the top of the black clot of blood swimming in the serum would suggest caution; but it is not a dangerous remedy when used to relieve acute inflammations. It is infinitely less dangerous in the hands of the common practitioner than is digitalis, or aconite, or veratrum, as I hope yet to prove.

But let us return to Dr. Reynolds, one of the leaders of the blood-poison, poultice and patience schools. He continues, “We still find it written, if these conditions are found, a hard, full, strong, frequent pulse, with great heat of skin, no prostration, then bleeding, antiphlogistics and the like, must be employed. But, as a matter of fact, we do not find these cases, and the more common *on dit* of medical practice is to the effect that, as the inflammation seemed extending, the quantity of wine has been doubled, the supplies of beef-tea increased, and bark and ammonia given more frequently.” And he emphatically denies that the *type* of disease in England has altered. Without following him through all his praise of the present poultice and patience, and veratrum and aconite practice, and denunciation of “the practice of a few years ago,” I will pass to his summing up: he says, “If the general condition be one of weakness, it matters not that the brain, the heart, or the lungs may be in a state of so-called inflammation; *the weakness is the one thing that demands immediate treatment*, and to neglect its treatment is to run the risk of sacrificing the patient to a theory of a compound state, even

now but imperfectly understood." (The italics are mine.)

In the above extract we have a synopsis of the belief, or theory and practice, of Dr. Reynolds and the opponents of depletion in this country. It matters not that "the pulse is full, hard, strong and frequent, with great heat of skin and no prostration;" he and his disciples cannot see them. They see only great weakness, and in that a demand for more wine, more beef tea, more bark and ammonia. My patient's case was a typical one, to them; a case in which they would have seen only weakness, a weakness calling for wine, beef-tea, bark and ammonia. The "weakness" which he exhibited being the one thing that, in their eyes, demanded immediate treatment.

In regard to "the weakness being the one thing that demands immediate treatment," and to his other declaration that it is "the starting point, the essential element in therapeutics," the American editor of the work, Dr. Henry Hartshorne, one of the most learned and accomplished physicians of the city of Philadelphia, when, I am proud to say, the profession is full of men the equals in intelligence and skill of those in any country, thus discourses: "Few, if any pathologists will hesitate to admit that a difference, often momentous, exists between the *exhaustion* of a system weakened by the continuance for some time of severe disease, and that *oppressive* debility with which the most robust person may be temporarily affected under the influence of an acute malady, such as pneumonia, meningitis, or croup." Had I regarded the "oppressive debility" of the boy Canarra, as Dr. Reynolds and his followers would have regarded it, as an exhaustion, and given the bark and wine, the beef tea and ammonia, a poultice all over him would not have saved him.

I made the declaration in my first paper, that before the advent of the new treatment by the poisons, veratria, digitalis and aconite, and by overloading the stomach with food, the physicians of thirty years ago rarely lost a patient from pneumonia, and that at the present time it is so fatal that it is one of the most dreaded of our diseases; and yet with the blood-poison believers the very contrary is considered to be the truth. Only last week I met a gentleman, a very intelligent man, having a large practice, but who has not practiced more than fifteen years, perhaps, and one reason that he gave for not bleeding in pneumonia, and even, too, in other diseases, was that "when physicians used to bleed and cup in pneumonia, it was much more fatal than it is now. Poor fellow! I pitied him, and trembled, in view

of the danger to those who should hereafter employ him in that disease. He had gotten this idea from Dr. Reynolds and others of that kind. In support of my declaration that it is much more fatal now than before the poison treatment came into fashion, under the name of antagonistic treatment, allow me to quote again from Dr. Hartshorne's comments, on page 32: "The mortality of pneumonia in Philadelphia has, for some reason, certainly increased; not in the hospitals, where the average character of the patients has always made them unfavorable subjects for depletion, but in private practice."

It is not too bold an assertion, indeed, for one who, without partisanship, maintains his conviction of the occasional importance of venesection and local depletion as remedies, that, while uncomplicated pneumonia, under moderate depletory treatment, was, thirty years ago, rarely fatal outside of hospitals, and not frequently so within them, *the indiscriminately stimulating method now often applied to all classes of cases has increased very considerably the fatality of this and other inflammatory diseases in private practice.*" (Italics mine.) What a commentary on the boasted skill of those who rely, for the cure of pneumonia, on digitalis and carb. ammonia, or veratria and whisky, or aconite and poultices and patience. How ashamed the teachers of medicine in Philadelphia, lecturing to large classes of young men who know nothing of the great value of depletion as practiced in former days, should be, to be denouncing it now, and teaching them that it was more fatal than their present treatment! What will their pupils think of such teaching when they read Dr. Hartshorne's approval of that which they have been taught to regard with horror, and his declaration of the fatality of that treatment which they have been urged to accept as the best? Dr. Hartshorne has been a close observer, has practiced in and out of hospitals for more than a quarter of a century, and knows whereof he affirms, has seen the life-saving power of depletion, and the fatal results of the stimulant and stuffing practice, founded on nothing but the *apparent* weakness so invariably present in real pneumonia. I say *real* pneumonia, because some of these new lights seem to regard all slight bronchial affections as pneumonia, and boast of scores of cures, when they have never had a single case of inflammation of the lung. If they do have a real case it is almost certain to prove fatal; and then they call it typhoid pneumonia; they tell what a *fearful* case it was; "how weak, how prostrate; it was impossible to keep him up,

with all the whisky we could get down him; he was greatly oppressed, and as a proof of the severity of the case, he only lived three days after we began his treatment, though, to sustain the action of the heart, we gave him twenty drops of tinct. digitalis every two hours." They might have added to this, "and sent antagonistic remedies through the blood to neutralize the poison which produced the disease." It does not occur to them that they might turn their attention to the condition of the diseased lung. It is strange that under such treatment the patient should have lived so long as even the short time of three days.

I have repeatedly seen in the newspapers announcements of the death of persons from pneumonia, headed "suddenly;" and suddenly, indeed, many of the deaths are, from such poisons as digitalis, veratria and aconite, when given, as they often are, in large doses. It would be a rare thing for a person to die of pneumonia in three or four days, if let alone. I have used the term poisons in speaking of three articles in common use by the opponents of depletion, and have used that term for a purpose, which may be seen hereafter. It pains me to see how very fearful our young physicians are of depletion by taking blood. They are really conscientious in their refusal to follow a practice which they have heard denounced in strong terms. Even Dr. Pepper, who tells the students that cups are useful; and even says that "if inflammatory reaction is very great, with intense throbbing pain in the head, great dyspnoea, etc., venesection produces effects with more certainty than local bleeding," hedges its use in ordinary cases with so many restrictions, that a graduate fresh from his teaching would use such depletion with fear and trembling. But I am obliged to the Professor for the declaration of its usefulness. I have no fear to use it in any case, in the very young or very old, as well as in the strong adult. There is no remedy more readily adapted to the varied conditions or degrees of inflammation. While writing the preceding page of this paper, I received from my friend, Doctor Traill Green, a practitioner of more than forty years' experience, and well known all over our country, the following letter, which I take the liberty to insert here, as evidence that the remedy which we recommend may be used on weak people with as much efficacy as on strong ones, and that advanced age is no bar to its use.

"I am glad that you are calling the readers of the MED. AND SURG. REPORTER back to the use of

the lancet. In the days of our pupilage and early practice the medical practitioner always kept the lancet near at hand. I wonder whether our young doctors know how to use that instrument. And the professional bleeder and leecher has disappeared. Then where shall help be found for those who are ill of inflammatory diseases? Nothing has as yet been found that can take the place of bloodletting in such affections. The speedy relief of pain and heat is so marked that patients themselves notice the change. I remember an attack of pleuro-pneumonia which I had when eighteen years of age, and the permanent relief which followed two free venesections made within twelve hours. The recollection of this relief in my own case always made me prompt in the use of the lancet after I entered the medical profession. I remember a call during the night, many years ago, to an aged woman who was suffering as I did at eighteen years of age. She had passed, or approached closely her threescore and tenth year, and Shakspeare's description of old age applied to her remarkably well: 'Sans teeth, sans eyes,' and she was very thin in flesh. It was a case which called for prompt action, and, of course, the question came up, shall I bleed her? Will it be proper to abstract blood from one so advanced in years and apparently so feeble? It was not convenient to call a consultation, and I had to decide alone. I felt it was safer to bleed her than to allow an inflammatory affection to run its course. I therefore opened a vein and allowed the blood to flow until the pain was relieved and the force of the pulse was reduced. When I made a visit the following day, I found my patient in a comfortable condition, and further treatment was unnecessary. I have always believed that I arrested the inflammatory condition of the lung at once. I would not hesitate to pursue the same course in the treatment of a similar attack, in one advanced in life, at the commencement of the disease. I think fewer fatal cases of pneumonia would occur in the aged if venesection were generally practiced."

Such is the testimony of a practitioner second to no man, in city or country, and I wish your readers to observe what he says about arresting the progress of the disease. A single bleeding cut it short at once in his aged patient, and in twelve hours his own affection was relieved; and in neither of these cases were any "antagonistic remedies" sent through the blood to grapple with, and destroy the poison playing havoc there. How silly is this talk of "keeping up the strength until the disease has time to run its course."

What is its course? Congestion, inflammatory engorgement, purulent infiltration, death, or, at least, lingering, partial recovery. The subject grows before me. What part I shall consider in my next, I know not.

HOSPITAL REPORTS.

ST. MARY'S HOSPITAL, PHILADELPHIA —EYE AND EAR DEPARTMENT

CLINIC OF H. AUGUSTUS WILSON, M.D.

A Case of Convergent Strabismus, or Squint.

Joseph S., aged twelve, is a school boy, and his cause of complaint is very apparent. The left eye, as you see, turns inward, and it will be interesting to determine the degree of convergence. By using this little instrument, called a strabismometer, which is merely an arc of ivory fitting the lower lid, and graded from the centre each way, in lines and half lines, we can readily learn the exact amount of the deviation. I now apply the instrument to his left eye and direct him to fix with the right on a point directly in front of him. You can all see that the pupil turns inward two lines from the centre of the arc, and I will therefore record the degree of convergence as two lines. By means of prisms you can find the deviation just as accurately, but when there is defective vision I always prefer the strabismometer.

It is not indispensably necessary that the convergence should always be measured, but for the sake of accuracy of record I generally resort to it.

We must next determine the cause of the trouble, for on this must depend the question of treatment. The immediate cause is, of course, a preponderance of power in favor of the internal rectus over the external. Now this might be due to paralysis of the sixth nerve supplying the external rectus, to spasmodic contraction, or simply to over action of the internal rectus. The first we can readily exclude by noting that the patient can follow my finger as I pass it from within, outward, and to the left. If it were due to tonic spasm of the internal rectus, as by the irritation of a growth in contact with the nerve, it could not be of so long standing as the history indicates; for such growths soon become of sufficient size to produce pressure, and in that case there would be paralysis of, not only the internal rectus, but also the superior and inferior recti, the inferior oblique, and levator palpebræ superioris, all of which muscles are supplied by the third nerve. There would also be dilatation of the pupil.

The case then reduces itself to simple over action of the internal rectus, and it is said that post-mortem examinations, made in cases where there has been strabismus, show a higher coloration of the muscles and some hypertrophy, due to this over action.

But what has caused the over action?

Anything which makes the vision of one eye defective, such as a corneal opacity, or a defect of

the retina, or anything that will cause the image in one eye to be imperfect, may cause the mind involuntarily to turn that eye out of the way, to avoid confusion. Or, what is by far the most common cause, hypermetropia, or far sight, either in one eye or in both. Donders says that hypermetropia is present in seventy-five per cent. of all cases, while in fifteen cases that I have operated upon hypermetropia was present in every instance.

The eyes in their normal condition should act in strict unison, the images produced on their retinæ occupying exactly corresponding positions, so that their united effect is to produce a single impression on the brain, like the solitary eye of the ancient Cyclops, which occupied a position in the centre of his forehead.

Now, by means of the ophthalmoscope I have determined that this patient has a patch of choroidal atrophy in the neighborhood of the yellow spot of Sæmering.

This, very probably, forms one element in the cause; but we will now test his vision, and determine whether an error of accommodation does not also exist, either of which conditions, if present, would be sufficient to account for the deformity.

This test must be made while the eyes are under the influence of a mydriatic, in order to determine the refraction independently of the changes in the accommodation produced by the contraction of the ciliary muscle.

I find, as you see, that at the distance of fifteen feet he can read number forty of the test types with his right eye, while with his left he can only read number seventy.

This I indicate by the fraction $\frac{15}{70}$, the numerator being the distance at which he can see it, while the denominator indicates the distance at which it should be seen. That is, with the right eye he reads at fifteen feet what the normal eye should read at forty feet, while with the left at the same distance he can only read the large letters which the normal eye should read at seventy feet ($\frac{15}{70}$).

The left, you see, then, is only a little more than half as good an optical instrument as the right.

Let us now see how this causes the left eye to turn inward. The third pair of nerves which supplies the ciliary muscles with the power of rendering the crystalline lens more convex, also supplies the internal recti muscles with their power of contraction; while their opponents, the external recti, are supplied by an entirely separate pair, the sixth.

Hence in the condition of hypermetropia it often happens that the child who is subject to this defect will learn to give an increased amount of innervation to the third pair, and thus the internal prevail over the external recti, and convergent squint is produced. But this is not all; if the eyes are turned in beyond the normal degree, of course, the images cannot fall on corresponding spots, and the mind, to avoid the confusion which would arise from dealing with two images not equally distinct, soon learns to fix with the more perfect eye in such a manner that the image will fall on the most sensitive spot of the retina, the macula lutea, and to disregard the impression

made upon the retina of the other eye; choosing, as it were, by a process of "natural selection," the best eye as its servant, and neglecting the other until it becomes almost entirely useless as an organ of sight. I could cite you many cases in which children have in this way so thoroughly lost the use of an eye by this gradual, but certain, process that they would scarcely miss it were it enucleated, and still to all external appearances the eye is as good as the other. After a time this eye, from disuse, becomes amblyopic and past redemption. All this could have been prevented by the use of properly adjusted glasses, which would have relieved the eye of the over strain dependent upon ametropia. But in this case, which is one of hundreds, such a precaution was never taken, and he is sent to me for relief from the cosmetic defect which is so conspicuous.

Few persons have such peculiar taste as to admire cross eyes. The facetious will joke, the superstitious will dread, and the truly polite will pity and appear not to notice it; but however it may strike the world at large, the subject is constantly reminded of the existence of the deformity.

The frequent occurrence of strabismus among school children has led to the idea among the laity that it is the result of imitation alone; and this will be given as the cause of the squinting, in nine cases out of ten.

But it has been demonstrated by such men as Donders that the true explanation lies in hypermetropia, at least three-fourths of the cases being due to this cause.

It is not, as a rule, until the child is sent to school, or acquires a taste for close work at home, that this defect shows itself. The eye is congenitally malformed, being too short in its antero-posterior diameter, and in the effort to overcome this defect the unfortunate subject acquires this ugly squint.

Of the fact that defects of vision are congenital you have all doubtless seen many examples; and where this defect takes the form of hypermetropia strabismus is frequently found as a family characteristic, particularly when the children of the family are inclined to read a great deal.

I have now in mind a family of six, all of whom have hypermetropia, and five have strabismus convergens. They furnish a beautiful series of cases (speaking from a scientific and not from a cosmetic point of view), illustrating as they do the various stages of the defect. The father, who is a teacher by profession, has a high degree of hypermetropia, while the mother has very marked convergence, and one of her eyes is almost entirely useless.

The oldest son, a young man of about nineteen, has passed through the usual experience of such patients. His degree of convergence was very great; his left eye became amblyopic; and though I operated on him last June with a very good result, as far as the strabismus is concerned, he will have to pay the penalty of his parents' neglect by carrying through life a useless eye.

The second child, a little girl of thirteen, presents a similar condition not quite so far advanced. In her case an operation was performed by Dr. R. J. Levis, on both eyes, giving an excellent result, the amblyopia not having advanced so far; but still, in her case even, there is a de-

cided advantage in favor of the right eye, which, had it been neglected a few years longer, would doubtless have shown a similar result to that of the son.

In the other children, who are six and eight years of age, respectively, an operation was found unnecessary, the adjustment of proper glasses being sufficient, as the cast, though obvious, was not yet firmly fixed, and, particularly in the younger one, being very slight.

But, to return to the case in hand, there being no contra-indication, and the patient being now thoroughly anesthetized, I shall operate.

The instruments needed are a stop speculum, to separate the lids, two pairs of toothed forceps, a blunt-pointed hook and a pair of scissors.

The lids now being held open by the speculum, I exert the eye by means of one pair of forceps while with the other I seize the conjunctiva over the attachment of the internal rectus, and pinching up a small fold, clip it through with the scissors. Through this opening I grasp the tendon with a pair of forceps, then the hook is passed beneath it, and by means of the scissors it is cut off close to the ocular insertion.

Two precautions are necessary; first, to avoid passing beyond the capsule of Tenon, which, if cut, would allow the muscles to recede too far and thus cause an outward squint quite as bad as the first. This, however, with ordinary care, need never occur.

The other point to be particularly guarded against is leaving any of the fibres uncut. To avoid this I make, as you see, repeated efforts with the hook, passing it through from above downward and from below upward and outward, until I am assured that complete division is effected, when the operation is complete.

The wound in the conjunctiva may be stitched, but this is not at all necessary, nor need any dressing be applied.

If there should be exuberant granulations at the point of incision in the conjunctiva they must be clipped off.

The external rectus, by its contraction, draws the eye into its proper position, and in a few days adhesion will take place between the cut end of the tendon and the ball, at a point further back.

But one point I wish to impress on your minds, and that is, the importance of insisting on the constant and continued use of such convex or cylindrical glasses as will correct the ametropic condition which has been instrumental in producing the defect.

The operation for strabismus at one time fell into great disrepute among both surgeons and patients, on account of the frequent recurrence of the defect because this precaution had not been taken. Now, however, since the subject of accommodation and refraction is so well understood, if care has been taken to divide every filament of the tendon, and proper glasses are adjusted and worn, we can confidently expect a good result.

NOTE.—One month later the patient presented himself at the clinic with no discernible deviation, and no traces of the operation were apparent, except upon close, critical examination, when the cicatrix in the conjunctiva could be seen.

MEDICAL SOCIETIES.

NATIONAL ASSOCIATION FOR THE PROTECTION OF THE INSANE.

A conference of this Association was held February 12th, in Boston. Hon. S. E. Sewall presided.

General Banks spoke in favor of a more intelligent classification of the insane, which shall separate the criminal and the epileptic insane from patients suffering from the ordinary forms of insanity, and place the recent insane in proper hospitals for active treatment, while the chronic and harmless insane should be under more homelike and economical surroundings.

Dr. Nathan Allen, of Lowell, as an expert, made some practical remarks on the nature of insanity and its causes. In looking for the causes he said: You will find that a leading one is loss of health. As means are found to prevent disease, insanity will be prevented. Another cause is intemperance, but he was convinced that, except in extreme cases, inebriates should never go to an insane asylum. The other causes are numerous and complex. The great thing to be done is to remove the causes, and this will in time be accomplished. These evils, he believed, could be largely remedied by legislation. The remedy will come with the knowledge, which is sure to come sooner or later.

A paper by Dr. A. Reynolds, of the Iowa Hospital, on the subject of the classification of the insane, was next read, in the absence of the author, by Dr. Fisher. The main point of the argument was the separation, so far as it is practicable, of the acute from the chronic insane, by providing small hospitals for the former, and larger and cheaper buildings for the latter, with separate hospitals for the epileptic, inebriate, and criminally insane. He does not believe it safe or proper to discard the mechanical restraints, but their use should be reduced to the minimum and be under the direction of the medical officers. He agrees with many other advanced students of insanity, that there should be some State supervision of the insane, believing that it would be desirable if some uniform system could be adopted. He also believes that every Board of Trustees should have at least one woman as a member, and that every hospital where female patients are treated should have a female physician.

Dr. J. M. Kenniston, of Cambridgeport, next spoke on the subject of preventive medicines. He said that the present National, State, and local Boards of Health are all engaged in the work of promoting the health of the people, by removing whatever tends to cause disease. Insanity is not a crime or a misfortune alone. It is a disease, and as such it must be considered and treated. Each individual case must be studied carefully and treated as scientifically and conscientiously as a case of diphtheria would be treated. Intemperance, spiritualism, morbid religious excitement, thoughtless and mercenary marriages, and sensational literature were mentioned as prolific causes of insanity which should be investigated and remedied.

A paper written by Dr. Walter Channing, of

this city, was next read, on the classification of the insane, with special reference to insane criminals and inebriates. It was mainly a discussion of the present arrangements of the asylums of this State and their needs. On the question of classification generally he declared that methods which will take away direct and daily medical inspection should not be considered. Insanity, he said, is a disease. The disease is to be treated, and, if not cured, ameliorated. The physician's profession is to do this, and as a matter of necessity he is driven to use various moral means, which with the insane means to a considerable extent tenderness, sympathy and encouragement. Because the disease is often incurable it is none the less a disease, and it needs unvarying care and treatment. Its subject must be protected from the stern and rigid economy that the public obliges the State to exercise. He commended the Connecticut system of classification. In general the plan contemplates receiving and treating all acute and all turbulent cases in the hospital proper. From time to time, the quiet, chronic patients will be transferred to new buildings at a short distance from the Central Hospital, where good custodial care can be maintained at less expense. There is also an annex in the rear of the main building for the treatment of insane criminals. Here in Connecticut are united the Superintendent's plan, the Willard plan, the cottage plan, and the separate criminal asylum plan, all within the limits of one moderate-sized farm.

Dr. Channing pronounced as the grand mistake of American insane hospital management, that we have gone on erecting one building after another without sufficient regard to the classes of persons who were to use them.

Dr. Ira Russell, of Winchendon, alluded to the importance of the education of physicians in this special direction, observing that few physicians, even at the present day, give much attention to mental diseases, and then Dr. Edward Cole, of the McLean Asylum, read an important paper on the causation of insanity.

Dr. Cole said that the starting point of all efforts at prevention is the ascertaining and classification of the causes of insanity. He considered the system adopted in most asylum reports as utterly inadequate, and as the value of results depends upon adequate expression in statistical tables, a more perfect tabulation is much needed. In the causation of insanity many influences contribute, and as in other abnormal or diseased conditions, a truly scientific knowledge of mental disease is first required before its prevention can be effectively dealt with. This is not alone for the specialist in lunacy practice. But for the larger purpose of prevention, all medical practitioners should be well instructed in a knowledge of lunacy and its causation. The influences producing insanity were enumerated as hereditary, neglect of sanitary laws, immorality, intemperance, defective education, lack of moral training, and all that tends to the development of a healthy constitution and sound body, he said, was of importance in the prevention of insanity.

Dr. Wilbur, of Syracuse, sent a letter containing valuable suggestions and statistics, which was read. He writes that at least 60,000 insane per-

sons are to be found within the territory of the United States. Ninety per cent. of these are doubtless incurably insane, and probably an equal percentage is supported at the public charge. The ratio of the insane to the general population is a constantly increasing one. They are scattered through the several States and Territories, under varying laws and differing policies, to be cured or helped. They must be treated by every means or agency that medical science in its latest development can furnish for their relief. In looking for the predisposing causes of insanity and the best methods of the treatment of the insane, we must, he writes, invoke the aid of the general practitioner of medicine and the medical specialist, and try to enlist them in contributing studies in this direction. Nor should we forget those engaged in the work of education. Their aid is especially needed in various ways. Already

the influence of excessive study has been quoted as a producer of insanity. Dr. Wilbur is inclined to think that too much stress has been put on this as a cause. It is not, he thinks, so much the amount of study as the modes and subjects of study, that are at fault. In his judgment, reviewing the question from an educational standpoint, there is less danger from crowding the intellects of pupils than from neglecting their moral culture. Many years ago there was published in a series entitled "Small Books on Great Subjects," an essay by Barlow, on "Man's Power Over Himself to Control Insanity." The main thought of this essay was that a habit of self control from youth upward, and a mind well poised, had much to do in securing immunity from this malady. A brief discussion followed, and the conference adjourned at a late hour.

EDITORIAL DEPARTMENT.

PERISCOPE.

Tinctura Rusci.

A correspondent, says the *Am. Jour. Pharm.*, inquires for a formula for this tincture, which is recommended for ringworm, by Prof. Kaposi, in Hebra's work on skin diseases.

Of the genus *Ruscus*, which is classed with the smilacæ or liliacæ, three species have been employed medicinally, all of which are indigenous to Southern Europe, one *R. aculeatus*, *Lin.*, or butcher's broom, being also found in England. The rhizome, known as *radix rusci* or *brusci*, possesses aperient and diuretic properties, and was formerly much used in visceral diseases. This is doubtless the species employed for the above tincture, but we have been unable to find a formula in old and recent works, though several give directions for decoctions. Since the dose was from ten to thirty grains in powder, the tincture is, perhaps, best made of twenty parts of the powdered drug, exhausted with sufficient dilute alcohol to obtain one hundred parts. The taste is disagreeable, sweetish and bitter.

The other two species referred to are *Ruscus hypophyllum* and *R. hypoglossum*, *Lin.*, the former of which was known as *laurus alexandrina*, the latter as *bislingua*, *uvularia* and *laurus alexandrina angustifolia*. The root and evergreen leaves were employed in diseases of the uterus and bladder.

Artificial Membrane Tympani.

We make the following extract from Dr. Laurence Turnbull's work on *Defective Hearing*, just published. It has general interest to all practitioners:—

Owing to a certain number of properly selected cases having been benefited by the use of the artificial membrana tympani, unprincipled men have sent advertisements all over the country,

stating that they are applicable to all forms of deafness, and thus receiving the price in advance, the poor victims find, when too late, that they are not of the slightest use to them.

When there is still a portion of the membrana tympani remaining an artificial membrane can be employed. When there is much pus or mucus in the auditory canal it must be first removed. In the class of cases where there is no membrane to be seen, and nothing remains but the promontory, and perhaps

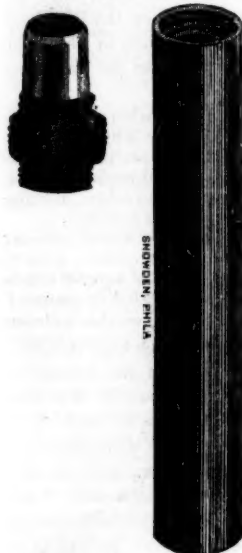
FIG. 1.

the stapes in position, we have found nothing so useful as the ball or an elongated cone of boracic acid cotton attached to a fine thread and passed down to the proper place by the forceps of Professor Gruber (see Fig. 1), where the membrane should be, and the thread placed behind the ear. Two interesting patients now under my care employ this form of apparatus; one is a pupil of our Central High School, and the other is a draughtsman; the former finds ordinary cotton not suitable, and prefers the antiseptic cotton as a long hollow roll on a bodkin; he introduces the cotton on the bodkin, and then withdraws, leaving the cotton in position; and by whistling he determines if it gives the proper note; with the cotton in position he is able to keep his place in his class, and without it he is utterly unable to hear only the loudest voice spoken into his ear, his opposite ear being entirely lost to him, from



malignant scarlet fever. No form being applicable to all cases, each case must be fitted, like eye-glasses. Another class will bear the use of the thin rubber cloth and metal stem; if pressure is required to bring the little bones in place, it is attached to a fine silver or gold wire. If there are granulations they must be removed by touching them with sulphate of copper if the bone is affected; if scrofulous, equal parts of tincture of iodine and glycerine, or tincture of iron in the place of the iodine. If the granulations are poly-poid in character, they are to be removed by the wire snare or forceps. For the treatment of the remains of polypi or granular growths, employ warmed spirits of wine, to be allowed to remain ten or fifteen minutes daily. If hypertrophic or vascular, employ chromic acid, glacial acetic acid, or

FIG. 2.



chloro acetic acid, or if these fail, galvanic cauterization. If syphilitic, nothing is so useful as iodoform in very fine powder, dusted on iodoform cotton. If the granulations are from phthisis, employ tannic acid and carbolic acid combined in equal parts. In plugging the meatus, we find it convenient to moisten the lower portion of the cotton-plug with a small portion of yellow oxide of mercury ointment, one grain to the drachm of vaseline, as the cotton becomes dry, and if not so anointed will adhere to the meatus or auditory canal.

The Bougie as a Tampon.

Dr. W. T. Carter describes, in the *Louisville Med. News*, his plan of using a bougie as a tampon. He instances a case where he was summoned to uterine hemorrhage: As I arrived she exclaimed, "Doctor, my sickness has come on me and I am dying—I am flooding to death." Her female friends had her propped up in bed, and were busily fanning and dashing water in her face, to revive her, for she often swooned. Her blanched, bloodless face and feeble pulse told all too plainly that her fears were well grounded. As quickly as possible she was placed in the recumbent position and the usual examination

made. The os and cervix were hard and considerably elongated. The uterus was so low, in fact, that by pressing upon the hypogastrium with the left hand I easily compressed the os tincæ between the index finger and thumb of the right hand, thus effectually checking the hemorrhage for the time being. If a strong rubber ring had been convenient I think I could have put it in the cervix, and by closing the canal it would probably have controlled the discharge until there was danger of its producing strangulation. So great was her exhaustion and depression that I did not feel justified in removing my hand until I could replace it by something equally as efficient. My fingers grew tired and were relaxing, from fatigue. In this crisis I took from my pocket a bougie (size No. 8), and had a thread passed through it about a quarter of an inch from its point. With this thread a conical pellet of cotton was securely fastened around the bougie where it was pierced. It was then passed to the right hand, the point carefully introduced and gently forced up until the shoulder of cotton was securely impacted in the os, entirely preventing any further loss of blood. Once during the succeeding night uterine pains coming on she removed the bougie, but the hemorrhage appearing she successfully readjusted it again. To keep the instrument in position the lower end should be attached to the thigh with a small tape or ribbon.

The Treatment of Fatty Heart.

In a lecture in the *Buffalo Medical Journal*, Jan., Dr. H. R. Hopkins says, on this subject:—

What shall we say concerning the treatment of fatty heart? In most cases your attention will be engaged in the management of the secondary affections of some of the other organs, and you will have but little time or thought to devote to the central and primary disease. You will always remember that a fatty heart is a weak heart, and you will regulate the habits of your patient accordingly. In cases where the disease has not long existed and can be traced to a gouty tendency or to lithiasis, a regimen calculated to correct that habit or condition may reasonably be expected to favorably influence the heart.

When associated with obesity, the management of that tendency by proper diet and exercise will be your aim. When existing with chlorosis or anemia, this state of the blood will demand attention. For general or special reasons, iron, quinine, strychnine, digitalis, belladonna will be ordered and their use countermanded, to give way to other drugs equally useless.

In the great majority of cases, either among the rich or the poor, the diagnosis is not made until the heart is so seriously diseased and disabled that some secondary trouble seems the most pressing, and engages the attention of the physician. This is one reason why the literature of treatment of fatty heart is so barren and so discouraging. The impression seems to generally prevail that a man with a fatty heart is no better than a dead man. I am persuaded that this is like diagnosing phthisis pulmonalis, only upon the presence of extensive excavations and rating its fatality accordingly. The most marked cases of fatty heart are seen in acute fevers, and yet a large propor-

tion recover; again, cases of fatty heart in connection with anemia are known to recover; again, it is known that fatty heart is only produced by the long continued action of its causes, that the heart seems to have remarkable power of resistance, and succumbs at the end of a long struggle. A due consideration of all these facts leads to the conclusion that the earlier diagnosis of fatty heart is necessary, in order that the results of early treatment may be available for intelligent prognosis.

The Mydriatic Power of Homatropin Hydrobromate.

The following conclusions are arrived at by Dr. S. D. Risley, from experiments detailed in the *American Journal of Science*:—

1. That homatropin hydrobromate, in solutions of two, four, and six grains to the ounce, is competent to paralyze the accommodation.

2. That in from sixteen to thirty hours this paralysis entirely disappears.

3. That dilatation of the pupil accompanies the paralysis and is more persistent; the probable duration being forty-eight hours.

4. That it is no more liable to produce conjunctival irritation than atropia or duboisia.

5. That it produces far less constitutional disturbance than either of the old mydriatics.

REVIEWS AND BOOK NOTICES.

NOTES ON CURRENT MEDICAL LITERATURE.

—The Annual Announcement of the Philadelphia School of Anatomy is a neat pamphlet, which may be had at the School, 1022 Hunter street.

—Several of the carefully prepared studies on chloral hydrate, by Dr. H. H. Kane, have been published, in the form of reprints, and may be had of the author, New York city.

—*Godley's Lady's Book*, for March, has a very pretty steel engraving, from a scene in "David Copperfield," fashion plates, some pleasant stories, etc. Price \$2.00 per year.

—In the Fifteenth Report of the Connecticut Hospital for the Insane, Dr. A. M. Shew, Superintendent, describes the management of the patients, and makes, among others, the interesting statement (p. 9), that after the acute stage has been passed, insanity actually tends to *prolong* life.

—Dr. H. A. Wilson, of this city, in a reprint on transverse fracture of the patella, expresses the results of his extended studies of this lesion in these words:—

In closing, I would say that it is my conviction that the hooks are the only scientific method of treating transverse fracture of the patella.

—The Annual Report of St. Michael's Hospital, Newark, N. J., shows the institution in a flourishing state. Singular to say, the eye and ear department has been discontinued "owing to the impossibility of finding specialists to take charge of it." Are, then, ophthalmologists and aurists so rare in Newark? We had no idea of it.

—Two bills are before the Senate of Tennessee, to prevent quackery, etc. A "citizen" sends us a pamphlet commenting on them. One bill provides a State Examining Board. This scheme Citizen condemns. The other bill he believes far better. As such questions are of general interest, we add that the latter bill simply provides that an open register shall be kept by the clerk of the County Court, in which the answers of every practitioner to the following interrogatories shall be filed:—

(a) When, where, and with whom the study of medicine was begun, and how long continued.

(b) At what school or schools preliminary education was had; in what school medical education; and from what school, and when, a diploma was received, if any has been received.

(c) If previously in practice, where and for what length of time at each place.

(d) If a member of any medical association or society, where its location and what its name.

This publicity, Citizen thinks, will be sufficient to purge the profession and protect the people.

—A valuable reprint from the *Journal of the Franklin Institute* is a lecture by Mr. Reuben Haines, chemist, of this city, on methods for judging of the wholesomeness of drinking water. He discusses and criticises, in an able manner, the analytical methods of Wanklyn and Frankland. One of his paragraphs especially deserves quotation, as it corrects what we believe is an error current among many professional men, as well as among the laity. It is as follows:—

Those who are familiar with the most recent sanitary experience realize that it is the *quality* rather than the *absolute quantity* of organic matter that is the most important factor in the sanitary judgment of a drinking water. A water which contains a large amount of one kind of organic substance may be much more wholesome or far less unwholesome, than that which contains only a small amount of another kind. It is a matter of actual experience that a water, notwithstanding it contains a large amount of nitrogenous organic matter capable of yielding albuminoid ammonia, may be found to be practically wholesome, or at least may be drunk for a long period without apparently producing any injurious effects; while, on the other hand, a water which contains *even a minimum* of organic substances capable of yielding albuminoid ammonia may nevertheless contain or develop the *materies morbi* or unknown causal "something," of a specific disease.

This distinction, is, it is needless to say, a highly important one, from a sanitary point of view.

BOOK NOTICES.

The Principles and Methods of Therapeutics. By Adolphe Gubler, Professor of Therapeutics in the Faculty of Medicine, Paris. Translated from the French. Phila., D. G. Brinton, 1881. 8vo, pp. 445, half morocco. Price \$4.00.

The culmination of the sciences appertaining to medicine is in therapeutics; whatever chemistry, physiology, botany, and the other auxiliary sciences contribute to the knowledge of our profession, it is ultimately with a view to lessen or prevent pain, to shorten disease and to restore to health. Hence it is with justice that therapeutics has figured so prominently in recent literature.

Therapeutics as such may be considered from several points of view. In the work before us the distinguished author has chosen one which may by some be considered narrow, but which he evidently had adopted after long deliberation. It appears to be correctly represented in the prefatory note to this translation, in the following words:—

It is, as its title states, a discussion of the *principles* and the *methods* of therapeutics. It does not take up this branch as an accessory to *Materia Medica*; nor is it concerned, beyond a moderate extent, with the physiological action of drugs; nor yet has it much to say on the treatment of individual diseases. These topics, which figure so prominently in most works on therapeutics, will be found to occupy comparatively little space in the present one.

Professor Gubler chose to approach his subject from quite other directions and with other purposes. He aimed to represent, from the latest acquisitions of science, and by the aid of the most careful instructions, first, the *methods* which can be most effectively employed in the administration of remedial agents, and next, the *principles or processes* by which their remedial action is exerted on the human economy. It is a study founded on clinical, physiological and chemical observations of the actions of medicines in disease, and the technical artifices for their introduction into the organism.

Professor Gubler, it should be remembered, was a disciple of Trousseau. He did not, however, accept the avowed empiricism of this brilliant teacher. He sought to connect the observed results of experience in the action of medicines with the chemical nature of remedies on the one hand and the physiological functions of the body on the other. This effort is conspicuous throughout this work. In some places his explanations are lucid, and impress the reader as forcible and

just; in others the reasoning is rather obscure, and the interpreter of nature is probably at fault; but there is always an impress of honest study and great learning.

The matter of the book consists of the last course of lectures which he delivered in the Paris School of Medicine. They were revised from short-hand reports, and have been translated by one of his American hearers, Dr. Halloran, who also adds a biographical sketch of the author, whose death occurred in April, 1879. There are some passages which indicate that the lecturer's meaning has not been fully set forth, owing, probably, to too much abbreviation on the part of the reporter. Allowing for this, the labors of reporter and translator have been fairly done.

The volume is divided into thirty-four chapters, followed by a full index.

The first four chapters are on General Therapeutics. The author here sets forth his views on the general properties of remedial agents, (mechanical, chemical, dynamic action), their effects (physical, chemical, organic) and affinities, the relation of the composition of medicines to their remedial action, etc.

Then follow seventeen chapters on the "avenues and methods for the introduction of medicaments," in which are explained and criticised such means as inhalations, fumigations, atomization, aerotherapy, cutaneous absorption, hypodermic injections, transfusions, injections, etc. Very minute directions are added for such of these as the author especially approves of, as the hypodermic method and transfusion of blood. He concludes the latter subject with these words:—

I am now through with the history of transfusion. It may have appeared tedious to you, but the subject is a very interesting one, and daily growing in importance. Much attention is being bestowed upon it, and if we take the total number of transfusions which have been made, including even those with defibrinated blood, however incapable they were of realizing the hopes placed upon them, since they could but temporarily revive the organism, we shall find that out of 270 cases of transfusion there have been at least 150 successes.

I therefore sum up with the conclusion that when a method is easily applied, is exempt from real dangers, and gives such results when death is almost imminent, it should be recommended, and full credit is to be given to those who are endeavoring to extend its use.

Chapters XXI to XXX are occupied with a discussion of the transformations undergone by medicaments in the organism, their elimination, and their occasional accumulation, together with the proper means of preventing the last-men-

tioned action. This is the most recondite, we may also add, the least satisfactory, part of the work. The principal example which the author takes is arsenic, to the action and transformations of which in the economy, about fifty pages are devoted. While he gives many scattered facts of interest, he appears to us to fall short of demonstrating conclusively the chemical changes of the agent which he assumes. It is rather a foundation to work upon than a completed exposition. He is a full believer in the accumulation of action of remedies, the processes of which he explains ingeniously by several theories.

The final chapters are on "force of habit," "tolerance and intolerance of medicines," therapeutic antagonism, and conditions affecting medicinal action. He does not allow that any complete antagonism does or can exist; partial antagonisms are numerous, but of no great therapeutic importance. The same is true of synergic action. While it is present, and deserves consideration, he esteems it more lightly than do some later writers.

In his last chapter, discussing the effects of climate, he makes a remark which is interesting in these days, when there is, in some quarters, an effort to introduce general bleeding again into practice. He writes:—

I have already mentioned, in speaking of climates, the much greater capacity of the inhabitants of the north for alcoholic beverages. I could say to you, that general bleeding is better tolerated in the tropics than in the northern climates. It is on this account that the theories of Rasori had so much success in Italy and Greece; more considerable success than with us; more, in particular, than they had in the north.

I am myself an example of the utility of general bleeding. I fell once, in Italy, bathed in blood; I was carried to the hospital of Milan, where they bled me, two, three, even four times per diem; I was longer in recovering from the effects of the bleeding than from those of the wound.

I have often asked myself whether, if these bleedings had not been made, I should not have had tetanus, in such a month as July. General bleeding is well tolerated in southern climates. It is true that it is badly tolerated in marshy districts, because the paludal miasma reduces the inhabitants of such countries to a state of anæmia.

Space does not permit us to extend this notice. What has been said will give an idea of the intention of the author in this work, and the position he designed it to occupy. It is a book to be thoughtfully perused, rather than referred to for particular points; it is a connected whole, which will scarcely attract a superficial reader, but will surely repay a thorough one.

The publisher has done his part well. The

paper is heavy and handsome, and the binding—in half morocco—is a pleasing novelty in medical publications.

A Practical Treatise on the Medical and Surgical

Uses of Electricity. By George M. Beard, A.M., M.D., and A. D. Rockwell, A.M., M.D., etc. Third edition. Revised by A. D. Rockwell, M.D. New York. Wm. Wood & Co., 1881. Cloth, pp. 758.

This treatise has fairly maintained its position for ten years, as the standard American work on medical electricity. It is large—too large—and might very profitably (to the reader, at least,) have been condensed a couple of hundred pages. The numerous long-winded narrations of cases increase needlessly the bulk of the volume; and there is a good deal of theorizing which has but slight importance. For all that, it remains the most satisfactory treatise for the physician who wants to make a thorough study of electrical treatment.

The present edition has several new chapters; one on exophthalmic goitre, another on the sequelæ of acute diseases, and another, almost new, in reference to the electro-therapeutics of diseases of women. The revision of the other parts has been pains-taking, and probably none of the later conquests, or asserted conquests of electricity in the domain of therapeutics will be found to have been omitted. It is well printed, and the illustrations, nearly two hundred in number, are generally clear and instructive.

A Manual of Diseases of the Throat and Nose.

By Francke Huntington Bosworth, A.M., M.D., etc. New York, Wm. Wood & Co. 1881. 1 vol. cloth, 8vo, pp. 427.

This work treats of the use of the laryngoscope, diseases of the fauces, nasal cavity and larynx. There are also chapters or sections in it devoted to "taking cold," "mucous membranes," laryngeal phthisis, paralysis of the abductors, and cognate subjects. It is profusely illustrated, there being in all 175 wood-cuts of operations, instruments, etc. They are not very well printed, and the book is not very well written. Cuts, facts, and statements are nearly all borrowed from preceding and better treatises. Of course, there is a great deal in the volume which it is well for the physician to know; but he will learn nothing, or next to nothing from it if he is familiar with the standard treatises on the subject which are already in most libraries of respectable size. There is an "Appendix" of formulas, many in halting Latin and generally very common place. In fact, we feel obliged to say that the volume seems to be a hasty and negligent specimen of book making, by both author and publisher.

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THE SANITARY REGULATION OF PROSTITUTION.

LORD ARTHUR RUSSELL remarks in one of his speeches that "Necessary changes in political measures are first originated by a small minority, and subsequently written and talked into existence, until what was at first only an idea becomes a moving force." As we belong to the very small minority in this country who have for a long time insisted that some definite measures are necessary in order to protect the community from the spread of contagious venereal diseases, we shall give a sketch of what has been written and talked on that subject within the last few months.

Probably the most important contribution to the subject has been the Report of the Committee on the Prevention of Venereal Diseases, submitted to the American Public Health Association, by DR. ALBERT L. GHON, Medical Director, U. S. Navy, Casirman, in December, 1880. Having first shown that, in the opinions of the most eminent surgeons, these diseases are both common and dangerous, some statistics of

the Navy and Army are given, which establish this fact, that at least one man in every thirteen in the naval service of the United States—last year one in ten; one in every nine in the army—of the negro troops one in six; one in every seven in the British army; and one in every four of the merchant sailors presenting themselves for treatment at marine hospitals and dispensaries, is affected with some form of venereal disease.

The facility of its transmission to innocent persons by kissing, smoking pipes and cigars, sheets, etc., is shown. The results of inspection of prostitutes during the war, in Nashville and elsewhere, are presented. In Nashville—

1. The amount of venereal disease was markedly lessened, so much so that its occurrence came to be looked upon (absurdly, of course,) as an imputation on the care of the examining surgeon. I have more than once known a company officer complain that a man was off duty for disease caught of such a girl, at such a time, and demand that she be sent to the hospital.

2. The women, who were at first rebellious, became quite reconciled to the system. I have known them to come to the hospital voluntarily, desiring to be examined for suspected disease.

3. It was self-supporting, the fees paying the expenses of the hospital.

To-day the Nashville prostitute advertises herself in big gilt letters over her front door, before a blazing light, more conspicuously by far than were she enrolled in a police register, while purblind virtue and false morality stalk by and leave no other guarantee to society than the poor creature's own good sense that her house shall not become a focus of disease as disastrous as smallpox or diphtheria.

In ten years, the surgeon general of the navy is authority for stating, the amount of venereal disease on the Asiatic station has fallen from 425.8 to 112.1 per thousand, a difference of 313.7 per thousand, due to the examination of prostitutes practiced at Hong Kong and in Japan, and the seclusion of infected women in Lock hospitals.

After the report the following resolution was passed, by a vote of 93 yeas to 28 nays:—

Resolved, That the American Public Health Association earnestly recommends the municipal and State Boards of Health to urge upon the legislative bodies of this country the enactment of a law constituting it a criminal offence to knowingly communicate, directly or indirectly, or to be instrumental in communicating, a contagious disease, such as smallpox, scarlet fever, or venereal disease, and giving to the said Boards of Health, and to the State and municipal health officials under their control, the same power in the prevention, detection, suppression and gratuitous treatment of venereal affections, which they now possess in the case of smallpox or other contagious diseases.

In the *Southern Clinic* for Nov., 1880, an attorney at law, Mr. F. E. ANDERSON, has an able review, historical and critical, of repressive enactments considered strictly from a legal point of view. He maintains that they are strictly in the purview of the government of the States, and argues that it is the duty of the legislative powers to pass such acts as are necessary to the health of the community. He asks, how can a philanthropist oppose a movement which, if it cannot kill crime, yet can rob it of the sting of disease? The legislation that he would propose runs as follows:—

That each corporation shall list the name, color and residence of each strumpet in its limits. It shall be a matter of police cognizance, with a municipal supervisory committee. There shall be one competent physician to each district. He shall examine each inmate of every house of ill-fame in his said circuit at least once a week. If he shall find any one unsound, he shall transfer her to a ward in the hospital, where she shall remain until a cure be effected. A stated tax shall be levied upon each prostitute, and the proceeds resulting therefrom shall be applied to defray all expenses arising therefrom. It shall be the duty of the person unsound to report to the committee, through the expert, the name of the one who may have infected her. If a medical examination sustain her charge, the accused, (unless he can prove an *alibi*) shall be fined and imprisoned. A false statement against one who is innocent shall be likewise punished; as shall also any disturbance of the public peace, in which case there shall be the usual powers of arrest.

This suggestion of a tax upon each prostitute has a jarring sound on some sensitive ears. It is called "licensing" prostitutes by the State; these innocents not being aware that all the public houses are regularly mulcted, as it is at present, only that the indirect tax they thus pay does not go into the public treasury, but into the pockets of the "force" and informers. Frightened by this bugaboo, the editors of the *College and Clinical Record* offer the following singular suggestion to legislators:—

Upon the complaint of a man, supported by oath, that he was inoculated with venereal diseases by a certain woman, the said woman shall be arrested and sent to a hospital for examination. If the accusation is found to be true, she shall pay a fine of not less than twenty-five dollars into the State treasury, and be detained in the hospital until well. Moreover, the keeper of the house in which the disease was acquired shall be made to pay a fine of not less than one hundred dollars, or undergo three months' imprison-

ment in the county jail; and furthermore, the owner of the house or property in which said inoculation occurred shall be fined not less than two hundred dollars, which shall be a lien upon the property until discharged according to law.

Nothing could be more degrading than such a statute; nothing more cruel to these poor and defenceless women than to put them in the power of men base enough thus to swear publicly against them. We shrink with horror from such suggestions. Shall no recognition be had of the fact that prostitutes are *human beings*, often friendless, ignorant, poverty-stricken, but not for that account to be harried by the worst and lowest class of males in a community, under the sanction of law?

A thoughtful and learned article on the subject appeared in the *Canada Medical Record* for Dec., 1880, from the pen of Dr. CASEY A. WOOD, physician at the Women's Hospital, Montreal.

The general principles which he advocates appear to us so temperate, judicious and suitable to the exigencies of the case that we indulge in a long extract from his article, the part which contains his suggestions to meet the difficulty:—

Physicians should have power to communicate to the chief of police the names of those prostitutes from whom any of their patients has contracted disease. The medical man should satisfy himself that the patient is in a position to state positively when, where, and from whom, he caught the contagion, and that the female is in the habit of distributing her favors promiscuously or for money. Where there is any doubt about the last two points the suspected woman should have the benefit of it, but in the majority of instances the police would be able to settle the question satisfactorily. Having satisfied himself on these points the chief should have power to serve a notice on the woman to forward to him, within twenty-four hours, a certificate from a regular practitioner, of her being in a healthy state, or else, if she be a common prostitute, to present herself at the hospital for treatment. In case of those who are not "common," in the ordinary acceptation of the term, i. e., who do not practice their trade openly, and do not live in brothels, it would be justifiable to accept a certificate from a regular practitioner that the woman is under treatment by him, and that he would use every means in his power to prevent her from cohabiting until she recovered. In this way (for all these proceedings would be kept secret, and neither the name of the male sufferer nor of the female patient would be divulged) scandal would be prevented in the case of occasional and otherwise "respectable female."

For the other class, those who are generally recognized strumpets, neglect or refusal to furnish a proper certificate, or to undergo treatment

if diseased, would justify their arrest and forcible detention in special wards of the hospital for a time discretionary with the officials in charge. Action of this kind would encourage the voluntary system and leave coercion as a *dernier ressort*. It would incite women to apply for treatment at once, and not wait until they were compelled to quarantine themselves by the strong arm of the law. It would respect the respectable, but punish the guilty. Voluntary patients might be allowed to leave the hospital when they desired, but they should be warned that any attempt to return to their trade until fully cured would involve their semi-imprisonment in the "coercion" wards of the hospital, and cut them off from all the privileges of the voluntary side. Examinations should be made voluntary in a Dispensary attached to the hospital, and a small fee (in Hamburg, where the regulation system is in vogue, it is only a mark) should be charged. As soon as the intention of periodical examinations was known they would begin to be appreciated, and, in time, the great majority of the prostitutes in the city would be likely to present themselves for medical inspection. A larger fee might be charged for attending the prostitutes at their houses. Certificates of good health might be issued if asked for by the women, but it must be understood that they are not considered necessary. It would, of course, be out of the question to admit students to any part of the hospital except to the coercion wards. This portion of the institution, being in some sense a city house of correction, would have a good claim for civic support, and in that case might be overlooked by a local inspector. In the event of a hardened sinner persisting in spreading venereal diseases instead of applying to hospital for relief, and necessitating repeated arrests, it would be justifiable to have her registered and examined by the medical officer not less frequently than once a week. This would be a greater punishment to her, in view of the treatment of her other sisters in vice, than imprisonment.

To complete these suggested regulations, it ought to be made possible for an inmate of a house of ill fame to abandon her life of infamy free of any claim for board, liquors, clothes, etc., the brothel-keeper may have upon her. It is, of course, to the interest of procurers and keepers to exert as great an influence upon their stock-in-trade as possible, and for this purpose many of them try to keep the girls in debt, so that they are compelled to continue in their old ways. It would be a good idea, also, to subject brothel keepers to a heavy fine, if it be proved that they allow any of their women to remain in their houses after becoming diseased. The proceeds of such fines would go to defray the expenses of the hospital.

The advantages of the measures above specified recommend themselves, because: (1) the legislation involved is not a one-sided treatment of woman, as if she were made for man simply to gratify his lust upon; (2) they leave a way open to those erring ones who desire to reform; (3) women are not compelled, except as a last resort, to undergo a degrading periodical examination by public officers; (4) the system does not condemn to a life of hopeless infamy those who

err temporarily, or who are seduced by designing men; (5) they provide for clandestine prostitution; (6) they are voluntary to a very great degree, and attempt to do by kindness what coercion has, over and over again, failed to accomplish; and, lastly (7) they do not violate the sanctity of private houses, as the system of forced registration is sure to do.

These suggestions are well matured, and appear to combine the necessary stringency without placing a too severe power in the hands of police or health officers, and it does away with the appearance of "licensing" prostitution, while yet it obliges it to contribute to its own protection against disease.

Standing almost alone, in reference to this subject, is Dr. F. CADELL, Lecturer on Syphilology in the Edinburgh Medical School. In a paper recently read before the Medico-chirurgical Society of Edinburgh, he took the ground that "Syphilis is not a sufficiently serious disease to require any special legislation." That a specialist in syphilis should advance this opinion, can only be explained by supposing that the disease, as he has observed it, has presented itself only in its milder forms.

From the above extracts and comments, it is plain that this question, equally important to the health and the morals of a community, is attracting the attention it deserves, and will certainly be brought, in one form or another, under the control of social law.

An interesting discussion of the general subject took place last August, at the International Congress of Hygiene, held at Milan.

Among the papers read at the special sittings of the Congress, was one by Dr. CATELLA, of Turin, on the legislative measures to be taken for the limitation of the spread of syphilis. A few of the speakers, as Dr. PINI, of Milan, would have us look to a general elevation of the moral tone of society rather than to repressive means. Some would endeavor to establish an international agreement, for the inspection of passengers—we suppose, endorsing their passports with the required certificate of freedom from disease (!)—while Dr. DA CUNHA-BELLEM, of Lisbon, would convert every medical man and chemist, every Government official and master, into an inquisi-

tor, and every man and woman into an informer, until the disease had been chased from the face of the earth (!). The general feeling was, however, expressed in a resolution, which, leaving the enforcement of Contagious Diseases Acts, so far as regards prostitutes and soldiers, to the local authorities, but realizing the extent to which syphilis is spread by the sailors of the mercantile marine, called on the governments of Europe to combine in demanding a clean bill of health of every ship leaving or entering a port.

NOTES AND COMMENTS.

Epigastric Pressure in Obstinate Hiccough.

M. Deghilage, of Mons, we read, in the *Journal des. Sci. Med. de Louvain*, January, 1881, was called to a young lady suffering from very violent hiccough, with spasm of the glottis. The patient had been over an hour in this state and was unable to articulate a syllable. There was no fever, no signs of heart trouble; the only cause that could be assigned was, that the patient had the lower limbs chilled a few days previously, during her menstrual period. Inhalations of vinegar and Hoffman's anodyne, and the application of sinapisms had been tried, without effect. Recalling Rostan's precept for such cases, M. Deghilage applied the palm of the hand to the epigastrium, and exercised strong pressure; there was slight amelioration, the movements were less convulsive and the dyspnoea less intense. A large pad of linen was then applied over the epigastric region, and pressed strongly inward by means of a bandage passed around the body. In a very short time complete relief was obtained; the pad was left several hours in position, and when it was removed the symptoms did not return and have not since reappeared.

Carbolic Acid as an Antipyretic Agent.

M. Desplats, of the University of Lille, has presented a note on this subject to the Belgian Academy of Medicine.

Because of the antiseptic properties of carbolic acid, the author considered that it would prove of benefit in typhoid states, and has for the last three years administered it in typhoid and the various septic fevers. In his memoir he cites three cases where the acid was administered, generally in enema, commencing at the dose of $\frac{1}{2}$ gram of the acid to an enema.

In the first case the temperature, at 40.8° (Centigrade) previous to the administration of the enema, fell within the course of an hour to 39.8°. The next day $\frac{1}{2}$ gram of carbolic acid was used in enema, and the temperature was reduced one degree and three-tenths in somewhat over an hour; during the night successive enemata were administered, each containing $\frac{3}{4}$ gram of the acid; perspiration always occurred in about 15 minutes after the enema was administered, and when this ceased (in somewhat over an hour generally), another enema was administered, and in this way the temperature was reduced before morning to 37.7°.

The same evening, however, the temperature had again mounted to 41° (C.); the enemata were repeated through the night, as before, and with like result; it was found necessary, however, to augment the proportions of carbolic acid. By this means the temperature was kept low, but whenever the enemata were neglected it soon mounted again.

The young man made a good recovery, as did also two other patients on whom the experiment was repeated. M. Desplats found that carbolic acid was tolerated in large doses, from five to twelve grams per diem in one case, ninety-one grams being administered from the second to the seventh of August, in another. He has drawn the following conclusions from his experiments: 1. Carbolic acid administered in sufficient doses has always the effect to lower the temperature. 2. The temperature may be kept low by repeated doses; the physician being thus able to modify à volonté the temperature. 3. The doses of carbolic acid ordinarily considered toxic are not so; the patient may absorb eight, ten, twelve grams without danger. 4. The rectum is the best way for the introduction of the medicament; more than two grams should not be administered in one enema, and this dose should be gradually reached, commencing with one-fourth of a gram.

Tardy Expulsion of a Dead Fœtus.

During the recent discussion in the Paris Academy of Medicine, on the imputrescibility of the dead fœtus while the membranes remain intact, M. Depaul cited the following case, of recent occurrence in his service:—

A young woman, twenty-two years of age, entered the service on January 25th, saying that after several rapid and convulsive movements, on December 24th, the fœtus had given no further signs of life; her breasts, which had become enlarged, went back, and the abdomen seemed to sink. M. Depaul found that the child was

dead, but it was not expelled from the uterus until January 10th, that is, seventeen days after its death.

The epidermis was peeled off in several places; the bones of the head loose, as if dislocated; the cord of a dark-red color, but not the least sign of putrefaction was present.

M. Depaul denies that a fœtus dead under these conditions, with the membranes intact, is a source of danger for a twin or for the mother. He holds that when a child thus perishes the circulation of its department is interrupted, the vessels are obliterated, and the blood of a living twin cannot then penetrate into the vessels of the dead fœtus.

SPECIAL REPORTS.

VI.—ON ANÆSTHETICS.

A variety of interesting matter on anæsthetics and their uses has appeared in the journals during the last six months, besides the two recent and extensive treatises of Turnbull, in America and Rottenstein, in France.

Relative Action of Anæsthetics.

It is, perhaps, known to most readers that in 1877 a committee was appointed by the British Medical Association to investigate the action of anæsthetics. A complete account of their investigations from that date down to the present time is printed in the journal of the Association for December 18, 1880. It is long and thorough, giving a complete account of the various substances alleged to have anæsthetic effects, and especial investigations into ethidene dichloride, chloroform and ether. Their respective influence on the pulse-respiration ratio, on blood pressure and on pulmonary circulation, are set forth. Space does not permit us to give even an abstract of these important studies, but the *practical rules* with which the Committee concluded their report are too valuable to be omitted.

They are as follows:—

1. It is not only necessary to watch the effect of the anæsthetic upon the pulse, but it is also requisite to have regard to the respiration. We must not only take into account the danger of sudden stoppage of the respiration, but must also remember that, in the event of abnormal increase of respiratory movements, it may become essential, for the safety of the patient, to temporarily discontinue the administration.

2. Owing to the tendency of chloroform and ethidene—particularly chloroform—to reduce the blood pressure suddenly, not only during the administration of these agents, but also after they have been stopped for some little time (a source of

serious danger), it is necessary for the person who has charge of the administration of the drug to be on the lookout for symptoms of this occurrence, both during the time the agent is being given, and for some time after the patient has recovered from its more evident effects.

3. The danger of death from stoppage of the respiratory functions, must be borne in mind in every case in which anæsthetics are given; but, of perhaps greater importance is the danger from interference with the proper action of the heart—particularly when it is remembered that, by artificial means, we can combat the former contingency. It might even be advisable, in certain cases, to introduce a tracheal tube by the mouth, so as to enable us to force air into the lungs by means similar to those adopted in experiments with animals; or, in circumstances where such a procedure was impracticable, tracheotomy might be performed, with the same object in view. Artificial respiration should be continued, even though all evidence of cardiac action has ceased.

4. As regards comparative danger, the three anæsthetics may be arranged in the following order: chloroform, ethidene, ether; and the ease with which the vital functions can be restored may be conversely stated, thus: the circulation is more easily re-established when its cessation is due to ether than to ethidene; and when the result of ethidene, than when chloroform has been used. The advantages which chloroform possesses over ether—in being more agreeable to the patient and more rapid in its action, in the complete insensibility produced by it, and the absence of excitement or movements during the operation—are more than counterbalanced by its additional dangers.

5. The chief dangers are: (1) sudden stoppage of the heart; (2) reduction of the blood pressure; (3) alteration of the pulse-respiration ratio; (4) sudden cessation of the respiration. The danger with ether approaches from the pulmonary rather than from the cardiac side—so that, by establishing artificial respiration, we have a means of warding off death. Its disadvantages are to a great extent, obviated by the use of ethidene; while the dangers of chloroform are also reduced to a minimum.

Suggestions for the Safe Administration of Anæsthetics.

A suggestion to render the administration of chloroform safe, is made by Dr. A. Crombie, in the *Practitioner*, Dec., 1880. He begins the chloroform in the usual way, by inhalation, and immediately injects, with the hypodermic syringe, twenty minims of the officinal solution of muriate of morphia. This greatly prolongs the anæsthesia, so that a very small quantity of chloroform suffices to keep it up afterward, half a drachm to a drachm being usually enough to keep the patient insensible for thirty to forty-five minutes. In long and difficult operations, especially about the mouth and face, this is no small advantage; thus, in removing the right upper maxilla, Dr. C. was

enabled nearly to complete the operation without the further administration of chloroform from the time that the patient was declared "ready." Vomiting is rarely seen when this method is followed. Chloroform asphyxia also seems to be prevented. In 600 cases, Dr. C. has only once seen it, and in that instance some of the usual precautions had been neglected. Paralysis of the heart, too, is less apt to happen, the risk of the occurrence of this accident, and of asphyxia as well, being lessened in proportion to the smallness of the dose of the anæsthetic required to cause and reproduce the anæsthesia. It is pointed out that this method makes chloroform as safe to use as ether; and that in tropical countries, especially India, where operations have to be performed at a temperature very little below the boiling point of ether, there is practically no choice of anæsthetics.

This suggestion, however, and similar ones for combining anæsthetics with opium preparations meets a critic in Dr. E. H. Jacob, who writes to the *British Medical Journal*, in January of this year, the following warning:—

May I utter a word of warning on the combined effects of ether and opium? Several cases have recently come to my knowledge—the details of which, I hope, will soon be published—in which death followed a short time after the administration of ether to patients under the influence of opium. In the table of deaths from ether, which you have just published, out of six cases in which death could be directly attributed to the anæsthetic, two were cases of hernia; and, therefore, most probably under the influence of opium. Whether it be a case of this kind, or morphia be given subcutaneously, in order to obtain the benefits of "mixed anæsthetics," ether is not without danger; and the patient should be carefully watched, after the operation, till complete awakening has taken place. In the recent volume of Billroth's *Deutsche Chirurgie*, which is devoted entirely to anæsthetics, Dr. Kappeler, from an experience of twenty-five cases, speaks strongly against the practice of mixed anæsthesia by morphia and ether; but allows that by morphia and chloroform to be open to less objection. Whether death occurs by the ether deepening the morphia narcosis, or by the morphia preventing the patient from clearing his bronchi from the secretion provoked by the ether, I will not undertake to say. It appears to me to be a very proper question for physiological experiment. Similar warnings have been uttered before against this form of "mixed anæsthesia;" but I do not think public attention has been called before to this explanation of deaths in hernia operation under the use of ether.

Dr. E. L. Hussey, in the London *Med. Times and Gazette*, Dec. 18, inveighs strongly against the use of the towel or napkin. Referring to a fatal case, in that country, he writes:—

It is impossible to resist the conclusion that in many of the unfortunate cases which have been under public notice the patient lost his life through carelessness: that, in fact, he was smothered with the apparatus in which the anæsthetic was given. In this case from America we have again the story of the towel. It is the same in almost all the fatal cases: a towel, a napkin, a fold or two of lint, is used; something, in short, which of itself is a bar to the natural process of respiration. The symptoms which precede the stoppage of the pulse and the breathing are not always reported completely; perhaps they are not always observed. Artificial respiration fails to restore life.

A well made *inhaler*, he believes, should always be employed.

A combined method of administration is recommended, for its convenience and safety, by Mr. Woodhouse Braine, F.R.C.S., in the *British Medical Journal*, December, 4. He writes:—

The quickest, and, in my opinion, the best, method of giving ether is to administer nitrous oxide till the patient is completely anæsthetized, and then to change the face-piece without allowing the inhalation of any air whatever. During the first few respirations the larynx resents the ether-vapor, and they are somewhat jerky and spasmodic; but the larynx soon becomes accustomed to the irritant, the breathing becomes full, easy, and regular, and there is a complete absence of struggling. When the struggling does occur, the movements are generally referable to dream: which the patient is having; and when he wishes to alter the position of his limbs, or to sit up, in pursuance of the nature of his dream, forcible prevention only makes him struggle more violently to accomplish his object, which, if effected in the first place, would have had no practical result, and he would have dropped back into the former recumbent position of his own accord. Should this struggling take place, no attempt should be made to hold the patient in any one position; his limbs should be allowed to move about freely, and he should be permitted to sit up, if he desire to do so—only preventing him from pulling off the face-piece.

But, in addition to the trouble saved by not having to hold a patient, the risk of a fatal result, especially when administering chloroform, is much less; for, if the patient be allowed to move freely, the heart has comparatively little work to do, compared with the strain on it which exists when it has to drive a column of blood through vessels which have rigid muscles on each side of them; and, again, this very struggling increases the venous flow, and tends to gorge the heart with venous blood.

Anæsthesia by Rapid Breathing.

It is well known now that by increasing the number of respirations up to one hundred or thereabouts per minute, teeth have been extracted and other minor surgical operations performed without pain.

A case in point is reported by Surgeon Major

Harman, in the *Baltimore Medical Journal*, Dec. 11th. He writes:—

I was fortunate enough yesterday to have an opportunity of adopting the new method of analgesia in cutting out a fatty tumor, of the size of a small walnut, from over the anterior upper fifth of the tibia. The leg, only grasped by a hand at the ankle, did not move throughout the dissection over the tender region of "the shin." The patient, who was nervous, very anæmic, and debilitated from the effects of severe ague, avers that "he felt nothing except the stitching;" and I could not have ventured to use chloroform, being alone; the patient's condition also rendering this anæsthetic unadvisable.

The explanation of this curious fact appears to be that excessively rapid breathing disturbs the action of the system in such a way that oxidation is impaired and carbonic acid is increased unduly in the blood, to the extent of producing its characteristic benumbing effects on the sensory nerves. Some experiments illustrating this were reported by Prof. H. C. Wyman, M.D., of the Detroit Medical College, in the *Detroit Lancet* for Feb., 1881. One of these was as follows:—

A small terrier was fastened to a table, a small tracheotomy quickly made, without anæsthetic, the nozzle of a close-working Davidson syringe introduced into the trachea, and air was forcibly driven into the lungs. The chest was quickly distended and soon all efforts at respiration ceased. An incision made in thigh to examine crural artery and nerve, which was strongly pinched, elicited no wincing. The crural artery was found pulsating, demonstrating that circulation, so far as heart factor was concerned, was normal. With syringe nozzle in trachea, cries, as result of pinching crural nerve were of course impossible, but the spasm of muscle usually observed when nerves are irritated were absent. Next, the nozzle of syringe was withdrawn, and while there were yet no respiratory movements, an awl was thrust through the skull upon the fifth nerve, the trunk broken, as manifested by change in pupil, but no cries or other signs of pain were noticed, notwithstanding. This is known to be one of the most painful vivisections. The dog after a few minutes recovered respiratory movements, but in the course of half an hour had several epileptic seizures. Twenty-four hours later he was dead. Autopsy showed that the pons had been broken by the awl, and that there was considerable extravasation of blood about the medulla and cerebellum. Clearly, death was not due to the artificial inflation of the lungs.

The Protoxide of Nitrogen.

Interesting studies have recently been made on the protoxide of nitrogen. The recent researches of Golstein and Zuntz, conducted in the laboratory of Pflüger, have shown that a complete narcosis is only produced and maintained with protoxide of nitrogen in the absence of oxygen; that is to say, it is the combination of asphyxia

with the respiration that produces complete narcosis; and they have shown that the pressure of blood, and the frequency of blood and the heart-beat, change under the influence of the respiration of protoxide of nitrogen in the same manner as under the frequency of asphyxia by suffocation.

These researches have been modified by the now well known experiments of Dr. Paul Bert, of Paris, who has succeeded, by making the patient breathe in an apparatus where the pressure is carried as high as two atmospheres, in enabling him to respire a mixture of protoxide and oxygen under such pressure as enables him to obtain complete anæsthesia, while maintaining in the blood the normal quantity of oxygen. To enable a sufficient quantity of the gas to penetrate into the organism to produce a complete insensibility, it is, according to M. Bert, indispensable that the tension of the gas be equal to one atmosphere. It is sufficient to augment the pressure under which respiration of the gas is carried on by one-fifth of an atmosphere, and to cause the patient to inspire a mixture of five-sixths of protoxide of nitrogen and one-sixth of oxygen, to obtain complete anæsthesia without asphyxia. For this purpose a special apparatus has been constructed, which is formed of a diving-bell, under which operations are carried on with this method of mixed anæsthesia for prolonged periods of an hour or more—the operator, the patient and his assistant being all enclosed in the pressure chamber.

A full account of these experiments can be found in the work recently published at Paris, *Traité d'Anesthésie Chirurgicale*, by Dr. Rotenstein.

All persons are not subject to the anæsthetic influence of nitrous oxide. At a meeting of the Odontological Society of Great Britain, in December last, Mr. George Lyddon read notes of half a dozen such cases. One, a clergyman, apparently healthy, though he suffered severely from dyspepsia, and engaged in the active duties of his profession, took the gas; he exhibited no signs of nervousness whatever, but inhaled it freely and well. After taking a considerable quantity he declared it was having no effect upon him; and, as this was evidently the case, the attempt was abandoned, and the teeth were extracted without the use of any anæsthetic. Mr. Lyddon estimated that the patient had inhaled about twenty gallons of the gas, but it had no more effect upon him than if it had been common air. The apparatus appeared to be in perfect order; it acted quite satisfactorily with the next patient

operated on, and Mr. Lyddon could not give any satisfactory explanation of the failure.

Treatment of the Anæsthetic Narcosis.

Several novel or partly novel plans of treating the narcosis have been mentioned. Professor Schirmer mentioned a simple one in the *Centralblatt für Augenheilkunde*, last year. This method consists in irritating the nasal mucous membrane. It has long been known, at least to physiologists, that the fifth nerve retains its sensibility longer than any other part in narcosis, and that reflexes may be induced through this nerve when other irritations fail. Professor Schirmer uses simply a rolled piece of paper, which he turns in the nose. In dangerous cases he dips the paper into ammonia.

Dr. F. W. P. Jago (*British Medical Journal*, December 11th, 1880), thinks that it would be proper to try *acupuncture of the heart*, by introducing a needle between the ribs near the apex of the heart, and pricking it slightly. He thinks it would not be dangerous.

Another plan he refers to is by *percussion of the heart*. He gives this instance:—

Some time ago, a dentist, who had given bichloride of methylene, sent for me. I found a young and very healthy-looking woman lying back, insensible, in the dentist's chair. The pulse and respiration had ceased for so alarming an interval that her case looked very bad indeed. Holding her wrist, to feel her pulse, it occurred to me to give her one sharp, very sudden blow with my knuckles over the region of the apex of her heart. This appeared to produce the desired result: the patient gasped, drew a good inspiration, and a pulsation was at once felt at the wrist. But this is only one case; and, as one swallow is no proof of summer, it may not be a true instance of cause and effect after all; yet I feel sure that that sharp, rapid blow over the apex of the heart saved the patient's life.

Following this suggestion, another correspondent proposes stimulation by "Corrigan's button," a button-shaped piece of metal heated in hot water and applied momentarily to the cardiac epigastric regions.

Special Anæsthesias.

Anæsthesia of the Larynx.—At the International Laryngological Congress, at Milan, last summer, M. Rosbach explained his method of anesthetizing the larynx. It consisted of the hypodermic injection of 6 milligrams of morphia on both sides of the larynx, at the point of entrance of the superior laryngeal nerve. M. Krishaber doubted whether a local anæsthesia could be obtained by so weak an injection; the effect was more probably due to the general action of the medicament. He himself had only once

had occasion to produce anæsthesia in a case of polypus of the larynx, without, however, finding any satisfactory result follow.

A solution of carbolic acid and chloral hydrate applied with a towel is now popular in England.

Anæsthesia during Operations on the Mouth.—In the *Lancet*, November, 1880, page 813, Dr. Macewen reports the fourth of a series of cases where, in a man, aged 45, he had excised a cancerous tongue, giving chloroform by a tube introduced through the glottis. The tube projected several inches beyond the mouth, and the anæsthetic was given continuously without interfering with the operator.

Mortality From Anæsthetics.

A list of deaths from anæsthetics, which occurred in the decade 1870—80, in Great Britain, printed in the *Brit. Medical Journal*, Dec. 1880, shows:—

From chloroform.....	101
“ ether.....	11
“ chloroform and ether.....	7
“ methylene.....	10

This table does not, however, tell so hardly against chloroform as appears at first sight, as it must be remembered that chloroform is much more popular in England than is ether; and if we suppose it is ten times as much so, then the mortality from the two would be nearly the same. As to just in what proportion it is given, there is no means of knowing.

According to a letter in the same journal, from Dr. Jacobs, chloroform in England is fatal, at the most, once in 3000 cases. Considering how carelessly it is often given, this is not a high mortality. But it does not, as some seem still to think, depend altogether on carelessness. Thus a fatal accident occurred at Vienna (*Allg. Wiener Mediz. Zeitung*, No. 48), in the *klinik* of Prof. Billroth on the 25th of November. An exceedingly anæmic patient, fourteen years old, who was subjected to deep narcosis for the sake of rectifying a spontaneous luxation in the left hip-joint, after he had endured osteo-myelitis in the right lower extremities, died suddenly, and could not be resuscitated, in spite of all efforts. The narcosis was produced in the manner usual there, by the inhalation of a mixture of chloroform, ether, and alcohol (100 : 30 : 30). Probably the patient was too anæmic to support the change in the blood from the anæsthetic mixture.

Prof. Brown-Séquard has lately shown, as we see in the *Gazette Hebdomadaire*, Nov., 1880, the possibility of killing animals in perfect health by applying chloroform to the skin. He found

that in all cases in which that liquid had induced loss of consciousness, anæsthesia, and a notable diminution of the temperature, of the movements of the heart, and of the respiration, death may be certainly produced by continuing to pour chloroform on the skin. Animals may almost always be placed in this dangerous condition of stupor and general resolution which will lead to death if the application of chloroform be continued. Some animals, however, have proved refractory, but even in these a portion of the phenomena which are generally produced is observed.

Anæsthesia in Labor.

This is discussed by Dr. Reed, in the *Detroit Lancet*, December, 1880. Dr. Reed does not commence the use of the anæsthetic before the os is dilated to at least the size of half-a-crown, before which the woman will bear her pains with but little complaint. He has found that the danger of delay in labor is much more liable to occur from the use of an anæsthetic too early in labor, than from the too free use of it after labor has advanced. It may be laid down as a rule before commencing the use of an anæsthetic to give a dose or two of the fluid extract of ergot, which will not only facilitate the uterine contractions, but act as a safeguard against any tendency to hemorrhage. He has lately used quinine in from three to five grain doses, or the two combined, and has obtained invariably good results. Dr. Reed prefers the following mixture as the best and safest anæsthetic to use:—

R. Chloroform,	3 ij
Sulphuric ether,	3 ij
Absolute alcohol,	3 j.

The subject was discussed last fall by the St. Louis Obstetrical Society, and considerable difference of opinion elicited. In the *Obstetrical Gazette*, Jan. 1881, Dr. D. M. Culver, of Indiana, believes that an anæsthetic often weakens the labor pains. He writes:—

I advise young physicians to use anæsthetics only in extreme cases—threatened convulsions or manual delivery—and let natural labors rest with nature's aid. As to ether, I deem it as unsafe as chloroform. I am satisfied, after considerable experience with it, that there is more danger of paralysis of the lungs from its use than from chloroform, and I know that it is better calculated to embarrass the physician than chloroform, for its effects are not so quick nor so complete.

Generally speaking, there can be little doubt but that chloroform, properly administered, is the better anæsthetic in labor.

Anæsthetizing During Sleep.

Dr. J. N. Quimby reports, in the last volume of the *Transactions of the American Medical Association*,

some experiments to ascertain if a person can be chloroformed during sleep. He found no difficulty in doing so, and reaches the conclusion that any one moderately skilled in giving the anæsthetic can do so without waking the patient. This demonstration has important medico-legal bearings; and also, as he suggests, it may be advantageously employed with children and nervous persons, thus avoiding the excitement and unpleasant anticipations they have of the operation.

CORRESPONDENCE.

Corrosive Sublimate from Calomel.

ED. MED. AND SURG. REPORTER:—

I notice in your issue, February 19th, an answer by H. W., of Ohio, to the query of J. G. Jr., of Alabama (in reference to effect of calomel administered with chlorate of potash), which relates a case of poisoning by tinct. ferri chlor., et potas. chlor. given soon after a dose of calomel.

If H. W., will reflect, I think he will conclude that the tinct. ferri chlor. formed with the calomel the poisonous bichloride of mercury. Chlorate of potash parts very reluctantly with chlorine, but more readily with oxygen. Some nine years ago I left calomel and chlorate of potash to be given to a baby every hour, alternately. During the day, while thinking over the child's sickness, it struck me that I had given medicines that were not only incompatible, but poisonous, to the child; and, as fast as my horse could take me, I repaired to the place (much to the family's surprise), and found the child—better.

For arsenic poisoning, a very handy and efficient antidote can be made, by adding baking soda to dilute tinct. of iron, forming sesquioxide of iron, and common salt. This illustrates how readily ferric chloride adds its chlorine to another substance.

C. H. SHIVERS, M.D.

Haddonfield, N. J.

Chloral in Poisoning by Strychnia.

ED. MED. AND SURG. REPORTER:—

On the night of 2d instant I read and studied with interest and care the article of Dr. Kane, on Chloral in Cases of Strychnia Poisoning, the more so as, about two years ago, I had great difficulty in relieving an accidentally poisoned patient, who supposed it to be quinine. It was done, however, by bromide of potassium and fluid extract gelseminum. A persistent and torturing neuralgia followed this case for weeks afterward, mostly confined to the head and intercostal muscles.

About 4 P.M., 8d instant, a messenger came hurriedly to my office door, urging immediate attendance on a young lady friend of mine in the outer limit of town. Our pastor met me with blanched face, saying, "She has taken strychnine."

She had gone through one fearful convulsion, and as I entered the room went into another,

the most horrible I ever saw, her perfectly empurpled countenance and faintly gasping respiration indicating apparently the death struggle. Just balancing for awhile, the tide of life began again to flow. To the emetics already given I gave more, as soon as practicable, and a hypodermic of $\frac{1}{4}$ grain of morphine, to steady her, and ordered at once, from the apothecary a solution of chloral, and another of bromide of potassium. In thirty minutes' time I had it, and gave her thirty grains of each. Just as she swallowed it, another convulsion came on, which lasted just fifteen minutes, gradually becoming milder towards its close, as the antidote began to do its work. As soon again as she could swallow, I gave thirty grains more of chloral, after which there were no more convulsions. At six I left her, with proper instructions with a capable nurse, who reported frequent vomiting during the night, but not even a rigidity; oil was ordered at 7 A.M., 4th. This finished the treatment: next day she was up, only complaining of soreness. This timid and sweetly disposed girl had been melancholy for three months, grieving for her dead mother. Supposing it to be morphine, and "desiring to go into a sleep from which she would never wake," she took not less than three, probably, five grains of strychnia. It may be interesting to note the fact that this poison had been lying in a paper in a drawer for certainly twenty years, and had lost none of its medicinal properties.

EDWARD H. SHOLL, M.D.

Gainesville, Ala.; Feb. 17th, 1881.

Pathology of Tubercle.

ED. MED. AND SURG. REPORTER:—

In the *Transactions* of the American Medical Association, page 344, paragraph 10, I read:

"Tubercle is a secondary product—a result from embolism, caused by thrombi of fibrin filaments—of the massal corpuscles, and from the mechanical and chemical effect of the embolism on the nutrition."

Please have the paragraph so worded that the ordinary reader may be enabled to grasp the idea. Being interested in the subject matter, the inquirer is anxious to thoroughly understand what has been written. J. W. C. O'NEAL, M.D.

Gettysburg, Pa.

[We shall be glad to hear from Dr. Ephraim Cutter, the author of the article quoted from, a more extended explanation of this somewhat mysterious definition. ED. REPORTER.]

NEWS AND MISCELLANY.

The Bellevue Hospital Medical College Weakens.

We have received, with regret, a circular from the Faculty of the Bellevue Hospital Medical College, New York, of which the following is an extract:—

"The experience of the session of 1880-81 has led the Faculty reluctantly to the conclusion that to persist in the requirement of attendance during three courses will be to incur a risk, as regards the interests of the college, which they do not feel justified in assuming; and the purpose of

this announcement is to state that, after the present session of 1880-81, attendance during a third session will be optional, and not obligatory. This college, like most American medical colleges, is self-sustaining; and the special provisions for instruction, which have been and will continue to be maintained, call for a large expenditure of money, as well as of time and labor. With an undiminished desire to continue the requirement of three sessions, and with not less willingness than heretofore to make whatever personal sacrifices may be necessary, the Faculty feel obliged, by a proper regard for the prosperity and usefulness of the college, to return to the requirements for graduation which were in force prior to the session of 1880-81."

We have observed that there has been less "push" in Bellevue in the last few years; less advertising, diminished announcements, etc.; and this, no doubt, in part explains the failure. It is lamentable, for all that.

Northern Medical Association, Philadelphia.

The following is a list of the officers of the Northern Medical Association elected for the year 1881:—President, Dr. Jas. B. Walker. Vice President, Dr. Henry W. Rihl. Treasurer, Dr. E. E. Montgomery. Recording Secretary, Dr. I. G. Heilman. Corresponding Secretary, Dr. J. T. Eskridge. Reporting Secretary, Dr. L. Brewer Hall. Counsellors, Dr. N. L. Hatfield, Dr. Wm. M. Welch, Dr. L. Brewer Hall, Dr. Robert J. Hess, Dr. E. R. Stone.

QUERIES AND REPLIES.

Dr. J. A. B., of Pa., inquires (1) whether it would injure the medical quality of dialysed iron to freeze.

We have referred the question to a distinguished pharmacist, who is of opinion that it would not injure it. (2) Muriate and carbonate of ammonia may be palatably compounded with syrup and strong mint water.

Dr. H. P., of Tenn.—Mr. Dacre Fox has not published any separate work on his treatment of sprains. The extract you refer to was made from a paper before a Medical Society.

Size of Brains.

Dr. N. L. Folsom writes that the brain of D'Arcy McGee, who was assassinated in 1868, weighed fifty-nine ounces.

Student.—Iodine has quite recently been recommended in carbuncle, by Dr. H. L. Snow, an English physician. He paints night and morning around the edge of the anthrax, and covers the whole with a linseed poultice.

MARRIAGES.

MILLER-GAINES.—At Geneseo, Ill. on Thursday, January 20th, by the Rev. Albert Bushnell, Robert W. Miller, M.D., of Guthrie, Iowa, and Miss Lucy A., youngest daughter of Nelson Gaines, Esq.

DEATHS.

CHAPMAN.—In New York, at the New-York Hotel, Feb. 19, Geo. H. Chapman, M.D.

HART.—In this city, on the morning of the 19th inst., Harry C. Hart, M.D., in the fifty-third year of his age.